A Multi-Sectoral Study of Financial Inclusion and Economic Output in Nigeria

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Abstract

This study evaluates the causal links between financial inclusion and economic output, as well as between financial inclusion and the five sectors of the Nigerian economy using cointegration and Granger causality test. The results suggest that there is bi-directional causality between financial inclusion and the aggregate economy. In most cases, there is bi-directional causality between financial inclusion and the sectors of the economy as well. This study also shows that financial usage has higher causal links with the economy and its sectors than financial access. Thus, a responsible pursuit of financial inclusion in Nigeria will emphasize not only creation of access to finance, but most importantly, its usage. This study establishes financial inclusion as a potent accelerator of economic progress, which can help realize the national objectives of building shared prosperity and abolishing extreme poverty. For policymakers, the message is clear: Mainstream rural credit from banks and other financial intermediaries in such a way as to realize increased coverage, broaden financial inclusion and stimulate output.

Key words: Financial inclusion, output, sectoral output, causality
J.E.L. Classification: G21, G23, O16, C32

1. Introduction

Is there a nexus between financial inclusion and economic output in Nigeria? If there is, does this nexus also transmit to the sectors of the economy? Our application of cointegration and granger causality tests provide affirmative answers to these questions.

The endogenous growth model highlights the role of finance. A developed financial system widens access to funds and reduce their cost, broadens economic activities and hence increases output. The merits of an inclusive financial system are efficient allocation of productive resources, reduction of the cost of capital, improvement in the day-to-day management of finances and reduction of informal sources of credit (Sarma & Pais, 2008).

However, it has been discovered that there are vast populations of "people, potential entrepreneurs, small enterprises and others, who are excluded from the financial sector, which leads to their marginalisation and denial of opportunity for them to grow and prosper" (Rakesh, 2006, p. 1305). For example, despite the significance of financial inclusion in the evolvement of efficiency and equality in the society, many Nigerians are unbanked and lack access to formal financial services. In 2012, according to EFInA (2016, p. 1), "34.9 million adults representing 39.7% of the adult population were financially excluded. Only 28.6 million adults were banked, representing 32.5% of the adult population... Billions of Naira circulate through the informal sector and this has a negative impact on the country's economic growth and development… 23.0 million adults save at home. If 50.0% of these people were to save N1,000 per month with a bank, then up to N138 billion could be incorporated into the formal financial sector every year."

Consequently, the Nigerian Government has pushed for increased financial inclusion in the national development agenda through an ambitious target of universal financial access by 2020 (Table 1) and various initiatives such as agent banking, consumer protection, financial literacy, implementation of the MSME Development Fund, tiered Know-Your-Customer requirements, linkage banking, and credit enhancement programmes (i.e. Agricultural Credit Guarantee Scheme (ACGS), Commercial Agricultural Credit Scheme (CACS), Entrepreneurship Development Centres, Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL), Refinancing and Rediscounting Facilities for SMEs and Small and Medium Enterprise Credit Guarantee Scheme. Considering the possible "cost in foregone economic growth when the volume of financial services in a country does not reach a sufficiently large share of the population" (Barajas, Chami & Yousefi, 2013 as cited in Naceur, Barajas & Massara, 2015, p.4), these measures are necessary to encourage increased financial coverage in the country.

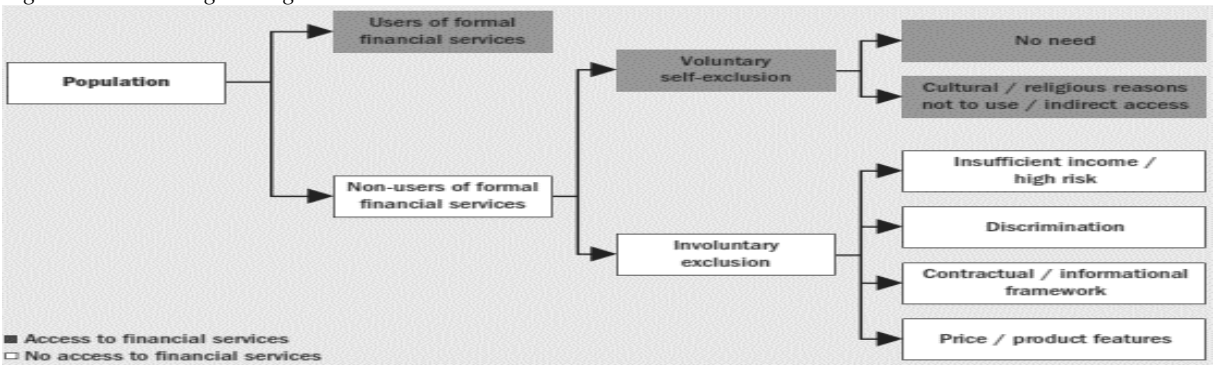
Table no. 1. Financial inclusion Targets in Nigeria

	Target	**2010**	**2015**	**2020**
% of total adult pop.	Payments	21.6%	53%	70%
	Savings	24%	42%	60%
	Credit	2%	26%	40%
	Insurance	1%	21%	40%
	Pension	5%	22%	40%
Units per 100,000 adults	Branches	6.8	7.5	7.6
	MBA branches	2.9	4.5	5.0
	ATMS	11.8	42.8	59.6
	POS	13.3	442.6	850.0
	Mobile agents	0%	3162%	62%
% of pop	KYC ID	18%	59%	100%

Source: CBN ("2012)

It is noteworthy that while financial access and usage may be essential for output, the financial sector may not provide the much-needed financing because of the lack of acceptable collateral, credit monitoring, and the high cost of credit assessment. Financial access is not synonymous with financial usage (Beck & Demirguc-Kunt, 2008). Figure 1 illustrates the difference between financial access and financial usage. The users consist of those who can access the financial system or decide to opt out for some reason. The non-users consist of the unbankable who do not have enough income or are too risky, those discriminated on religious, social, or ethnic grounds and those whose reach is too costly. In other words, finance access is the ability of individuals or businesses to obtain financial services while financial usage is the ability to use financial services.

Figure no. 1 Distinguishing Between Access to Finance and Use



Source: Demirguc-Kunt, Beck & Honohan (2008, p. 29)

While financial access and financial usage are accepted measures of financial inclusion, financial usage is a better measure. Financial inclusion goes beyond simply having access to the traditional financial products such as credit, payments, savings and insurance; it extends to both the depth and breadth of usage. Yet access is a first step to inclusion. This study therefore uses both access and usage as measures of inclusion.

The motivation for this study are many. Although numerous studies are available on financial inclusion as well as economic output, two fundamental gaps exist in the literature. First, there is little empirical evidence available on financial inclusion and its implications for output and the sectors of the economy. Two, a huge part of the literature on financial inclusion has been devoted to its measurement and promotion, to the detriment of the empirical evaluation of its impacts. In fact, in the case of Nigeria, empirical evidence is scarce and little data is obtainable for any significant insights for policy direction. Additionally, analysing financial access and usage in a single study will provide insight on whether there are any differences in their impacts on the economy as well as the sectors and show the reasons why the results might be different. This may also indicate that sector-specific information is vital since results could differ among the sectors of the Nigerian economy. Moreso, with the growing initiatives in developing a financially inclusive economy, it would be worthwhile to explore the nexus between financial inclusion and economic output in Nigeria. In other words, it would be fitting to place financial inclusion within the broader context of economic output. By examining the issues empirically, therefore, we provide solid and conclusive evidence for policymakers.

The rest of this study is organized as follows. Section 2 reviews the previous literature. Section 3 discusses the data, empirical models and econometric methodology. Section 4 deliberates on the empirical results whereas Section 5 presents the conclusion and policy implications.

2. Literature Review

Vast empirical research emphasizes the nexus between finance and growth, as well as the view that financial deepening contributes to growth via either a supply-leading (financial deepening encourages growth) or a demand-following (growth leads to demand for financial products) channel (see King and Levine, 1993; Rajan & Zingales, 2003). Besides, the endogenous growth literature highlights the role of finance (Aghion & Hewitt, 1998, 2005). A developed financial system widens access to funds and reduce their costs, broadens economic activities and hence increases economic growth.

In the last decade, attention has shifted from financial deepening to financial inclusion. Financial inclusion, a concept that evolved in the early 2000s, initially denoted the delivery of financial services to the "nonbanked" or the "non-bankable", but has evolved, in the last decade, into four dimensions: easy financial access for all households and businesses; prudential institutions, regulation and supervision; sustainability of the financial sector; and competitiveness among financial service providers. Generally, the financial inclusion of an economy is measured by "the proportion of population covered by commercial bank branches and ATMs, sizes of deposits and loans made by low-income households and SMEs" (Mohieldin, Iqbal, Rostom, & Fu, 2011, p. 3).

Development economists suggest that, without inclusive financial systems, poor individuals and small enterprises may deter major decisions as regards human and physical capital accumulation, nor exploit promising growth opportunities (Dupas and Robinson, 2009; Ashraf et al, 2010; Ashraf, Karlan, and Yin, 2010). Financial market imperfections, such as transactions costs and information asymmetries, are likely to confine the poor people to the "poverty trap", thus reducing their opportunities and leading to continuous inequality and sluggish growth (Banerjee and Newman, 1993; Galor and Zeira, 1993; Aghion and Bolton, 1997; Beck, Demirguc-Kunt and Levine, 2007). As well, inescapable trade-off between social inequality and wealth accumulation in the early stages of development likewise implies the essential role of financial access to social equality (See Galor and Zeira, 1993; Banerjee and Newman, 1993).

A rapidly growing literature continues to show the significant beneficial effects of financial inclusion for individuals. For example, studies such as Banerjee and Newman (1993), Galor and Zeira (1993), Aghion and Bolton (1997), and Beck Demirguc-Kunt and Levine (2007) have established a range of models to show how lack of financial access can lead to inequality and poverty traps. The literature shows that provision of access to savings instruments encourages consumption (Dupas and Robinson, 2009), productive investment (Dupas and Robinson, 2009), savings (Ashraf, Aycinena, Martinez, and D. Yang, 2010), and female empowerment (Ashraf, Karlan, and Yin, 2010). Evidence also abounds that access to credit has beneficial effects, though the results are not robust (Karlan and Morduch, 2010; Roodman, 2012).

The empirical literature on financial inclusion mostly comprises country or regional analysis based on primary surveys. For example, Sarma & Pais (2008), in a cross-country empirical study of the nexus between financial inclusion and development, identify levels of human development income, inequality, literacy, urbanisation, physical infrastructure for connectivity and information, nonperforming assets as a percentage of total assets and the capital asset ratio of the banking system as the factors that are significantly associated with financial inclusion. Allen, Demirguc-Kunt, Klapper,& Peria (2016), using data for 123 countries and over 124,000 individuals, find that increased financial inclusion is linked to an enabling environment to access financial services, such as little documentation in the opening of an account, greater proximity to branches, and lesser banking costs. They found that, for rural residents and the poor, policies targeted at promoting inclusion are especially effective. Largely, their results suggest a role for policy in the expansion of financial usage. As well, Demirguc-Kunt and Levine (2007) empirically show that "countries with deeper financial systems experience faster reductions in the share of the population that lives on less than one dollar a day. Almost 30% of the cross-country variation in changing poverty rates can be explained by variation in financial development" (Mohieldin, 2011, p. 5).

With respect to emerging markets, Kumar (2011), using Indian state-wise panel data spanning over 1995 to 2008, show that increase in bank branch network, income level, the factory proportion and employee base as significant determinants of financial inclusion. As well, Swamy (2012) show empirically the growth-enhancing role of bank-based financial intermediation in India. Swamy show that access to finance by the poor is necessary for poverty reduction, inclusive growth and economic development. In Nigeria, there are only two empirical studies on financial inclusion till date: Mbutor & Uba (2013) and Babajide, Adegboye, & Omankhanlen (2015). While Mbutor & Uba (2013) show that growing financial inclusion improves monetary policy effectiveness, Babajide, et al (2015) show that financial inclusion is an important determinant of capital per worker and the total factor of production, which also determine final level of production in the economy. None of the available studies, to the best knowledge of the author, considers empirically the nexus between financial inclusion and economic output, nor between financial inclusion and sectoral output in Nigeria.

3. Methods

Data and empirical model

This study employs annual data of total commercial banks' loans and advances, number of banks in Nigeria, gross domestic product (GDP) as well as sectoral GDP's of agriculture (AGRICUTURE), building and construction (BUILDING), industry (INDUSTRY), wholesale (WHOLESALE) and services (SERVICES). The study covers 1981 to 2013 period and the dataset is collected from the

Central Bank of Nigeria Statistical Bulletin. Following the existing literatures on financial inclusion, number of commercial bank branches per 1000 km^2 and outstanding loans from commercial banks (% of GDP) are used as measures of financial access and financial usage respectively.

Unit Root Tests

A three-stage procedure was followed in testing for the direction of causality. The first stage involves testing for the order of integration using the Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) unit root tests.

The testing procedure for the ADF test is applied to the model

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + ... + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \quad (1)$$

Where α is a constant, β is the coefficient of thea time trend and p is the lag order of the auto-regressive process.

The unit root test is then done under the null hypothesis that $\gamma = 0$ against the alternative hypothesis that $\gamma < 0$ using

$$DF_\tau = \frac{\hat{\gamma}}{SE(\hat{\gamma})} \quad (2)$$

The Phillips–Perron (1988) test builds on the Dickey–Fuller test with the null hypothesis that $\rho = 0$ in

$$\Delta y_t = \rho y_{t-1} + \mu_t \quad (3)$$

Where Δ is the difference operator. Compared to the Dickey–Fuller test, the Phillips–Perron test has indeterminate autocorrelation and heteroscedasticity in the error term of the test equation.

Cointegration analysis

The second stage involves using the Johansen cointegration test to check for the presence of cointegrating relationship between financial inclusion and economic output in Nigeria, as well as between financial inclusion and the five sectors of the economy. Thus, there are six equations.

When GDP is the dependent variable, the equation is denoted as F_{GDP}(GDP|ACCESS,*USAGE*). When AGRICULTURE is the dependent variable, the equation is denoted as $F_{AGRICULTURE}$(AGRICULTURE|ACCESS,*USAGE*). When BUILDING is the dependent variable, the equation is denoted as $F_{BUILDING}$(BUILDING|ACCESS,*USAGE*). When INDUSTRY is the dependent variable, the equation is denoted as $F_{INDUSTRY}$(INDUSTRY|ACCESS,*USAGE*). When WHOLESALE is the dependent variable, the equation is denoted as $F_{WHOLESALE}$(WHOLESALE|ACCESS,*USAGE*). When SERVICES is the dependent variable, the equation is denoted as $F_{SERVICES}$(SERVICES|ACCESS,*USAGE*).

Granger causality analysis

Establishing the presence of cointegrating relationships is a necessary but not sufficient condition to obtain reliable conclusive results. To establish the direction of causality, the third stage involves constructing Granger causality tests to determine the link between financial inclusion and economic output in Nigeria, as well as between financial inclusion and the sectors of the economy. Since the variables are cointegrated, we employ the vector error-correction model (VECM) to test for the Granger causality.

The Granger causality test is conducted by estimating the following multivariate *p*th order VECM,

$$(1-L)\begin{bmatrix} GDP_t \\ ACCESS_t \\ USAGE_t \end{bmatrix} = \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \end{bmatrix} + \sum_{k=1}^{p} (1-L) \begin{bmatrix} \beta_{11k} & \beta_{12k} & \beta_{13k} \\ \beta_{21k} & \beta_{22k} & \beta_{23k} \\ \beta_{31k} & \beta_{32k} & \beta_{33k} \end{bmatrix} \times \begin{bmatrix} GDP_{t-k} \\ ACCESS_{t-k} \\ USAGE_{t-k} \end{bmatrix} + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \end{bmatrix} \times [\varepsilon_{t-1}] + \begin{bmatrix} \mu_{1t} \\ \mu_{2t} \\ \mu_{3t} \end{bmatrix} \quad (4)$$

Where (1 - L) is the difference operator, μ_{1t} is the disturbance term, ε_{t-1} is the lagged error-correction term. In the six cases the dependent variable is regressed against past values of itself and the other

variables. Since cointegration is detected, there is both short-run and long-run Granger causality relationships. The existence of cointegratiion among the six equations suggests the presence of Granger causality in at least one direction.

4. Results

Unit root and cointegration results

Firstly, in order to preclude spurious results, it is necessary to carry out unit root test to confirm the order of integration of each series. Table 2 reports the results of the unit root tests. At the 5% significance level, the ADF test and the Phillips Perron test statistics for all variables cannot reject the null of a unit root at level, meaning that the variables are non-stationary at level. Nevertheless, in first differences, the ADF test and the Phillips Perron test statistics automatically reject the null of a unit root at the 5% significance level. Therefore, the unit root test results suggest that the variables follow the I(1) process.

Table no. 2: Unit Root Test

	ADF		PP	
	I(0)	I(1)	I(0)	(1)
ACCESS	-1.429	-4.252*	-1.412	-4.070*
USAGE	-1.029	-6.082*	-0.917	-7.272*
AGRICULTURE	-1.940	-4.230*	-1.929	-4.118*
BUIDING	-1.387	-5.003*	-0.347	-2.967**
INDUSTRY	-1.957	-4.361*	-0.365	-5.630*
WHOLESALE	0.948	-4.913*	-0.393	-2.997**
SERVICES	-1.189	-9.704*	-2.634	-2.962**

*Note: * and ** denote the significance level at the 1% and 5%.The lag length is determined by Akaike's Information Criterion (AIC).*

Having established that the variables are integrated of order one, I(1), we can safely proceed to implement the Johansen cointegration tests. Table 3 exhibits the results of the trace and max-Eigen statistics of the Johansen cointegration test. Considering the fact that cointegration tests are susceptible to the choice of lag order, we perform the cointegration tests using AIC.

Table no. 3. Johansen Cointegration Test

	Lags	Trace Statistic	Max-Eigen Statistic	
F_{GDP}(GDP|ACCESS,*USAGE*)	3	34.021*	25.773*	Cointegrated
$F_{AGRICULTURE}$(AGRICULTURE|ACCESS,*USAGE*)	5	66.582*	34.227*	Cointegrated
$F_{BUILDING}$(BUILDING|ACCESS,*USAGE*)	5	66.442*	48.399*	Cointegrated
$F_{INDUSTRY}$(INDUSTRY|ACCESS,*USAGE*)	5	77.858*	63.933*	Cointegrated
$F_{WHOLESALE}$(WHOLESALE|ACCESS,*USAGE*)	4	51.209*	30.019*	Cointegrated
$F_{SERVICES}$(SERVICES|ACCESS,*USAGE*)	5	32.519*	19.573**	Cointegrated
	Critical values			
	1%	29.797	21.132	

	5%	15.495	14.264	
	10%	3.841	3.841	

*Note: * and ** denote the significance level at the 1% and 5%.The lag length is determined by Akaike's Information Criterion (AIC).*

Therefore, both the trace and max-Eigen statistics of the Johansen cointegration tests consistently reject the null of no cointegrating relationship between the variables. In other words both the trace and max-Eigen statistics fail to reject the null of no cointegration between financial inclusion and economic output, as well as between financial inclusion and the five sectors of the Nigerian economy. Therefore, long run equilibrium relationships exist between financial inclusion and economic output, as well as between financial inclusion and the sectors of the economy.

Granger causality results

Granger causality is used to investigate the causal relationship between financial inclusion and economic output, as well as between financial inclusion and the sectors of the Nigerian economy. Following Granger (1988), the error-correction model is used to determine the direction of causality as it contains both short and long-run causality information. On the basis of the cointegration results in Table 4, the Granger causality test is conducted for the six equations using VECM. Table 4 reports the results of the Granger causality tests.

Table no. 4. Granger Causality Tests

Null Hypothesis	Granger causality test	
	Short run	Long run
ΔACCESS → ΔGDP	6.091	4.422**
ΔGDP → ΔACCESS	1.952	1.413
ΔUSAGE → ΔGDP	14.148*	11.291*
ΔGDP → ΔUSAGE	25.812*	13.804*
ΔACCESS → ΔAGRICULTURE	9.885	4.258*
ΔAGRICULTURE → ΔACCESS	20.146*	4.200**
ΔUSAGE → ΔAGRICULTURE	88.987*	31.419*
ΔAGRICULTURE → ΔUSAGE	17.872*	3.138**
ΔACCESS → ΔBUILDING	4.922	4.900*
ΔBUILDING → ΔACCESS	9.286	2.081
ΔUSAGE → ΔBUILDING	109.458*	49.362*
ΔBUILDING → ΔUSAGE	26.460*	11.260*
ΔACCESS → ΔINDUSTRY	32.217*	3.507**
ΔINDUSTRY → ΔACCESS	6.230	1.149
ΔUSAGE → ΔINDUSTRY	16.971*	9.761*
ΔINDUSTRY → ΔUSAGE	9.878	9.109*
ΔACCESS → ΔWHOLESALE	5.765	5.294*
ΔWHOLESALE → ΔACCESS	2.123	1.863
ΔUSAGE → ΔWHOLESALE	115.659*	12.904*

ΔWHOLESALE → ΔUSAGE	3.373	10.150*
ΔACCESS → ΔSERVICES	5.750	2.402
ΔSERVICES → ΔACCESS	7.290	2.664
ΔUSAGE → ΔSERVICES	69.459*	23.795*
ΔSERVICES → ΔUSAGE	3.945	10.409*

*Note: * and ** denote the significance level at the 1% and 5%.The lag length is determined by Akaike's Information Criterion (AIC).*

In the case of the aggregate economy, as depicted in Table 4, while there is strong evidence of uni-directional Granger causality from financial access to output in the short run, there is bi-directional Granger causality between financial usage and output both in the short and the long run.

In the agriculture sector, the results also revealed that financial access and agriculture were bi-directional in the long run while unidirectional from agriculture to financial access in the short run. Conversely, when Granger causality was tested on financial usage and agriculture, there is a strong evidence of bi-directional Granger causality both in the short and long run.

Likewise, in the building and construction sector, there is a uni-directional causality from financial access to building in the long run. However, there is a strong evidence of bi-directional Granger causality between financial usage and building in the long run, but only a unidirectional causality from financial usage to industry in the short run.

In the industrial sector, there is a uni-directional causality from financial access to industry both in the short and long run. There is also a strong evidence of bi-directional Granger causality between financial usage and industry both in the short and long run.

In the wholesale sector, there is a uni-directional causality from financial access to wholesale in the long run. There is also a strong evidence of bi-directional Granger causality between financial usage and wholesale both in the short and long run, but only a unidirectional causality from financial usage to wholesale in the short run.

In the services sector, there is no causality between financial access and services both in the short and long run. However, there is a strong evidence of bi-directional Granger causality between financial usage and services the long run, but only a unidirectional causality from financial usage to services in the short run.

The findings of the study that there is a bidirectional causality between financial inclusion and economic ouput, as well as between financial inclusion and the five sectors of the Nigerian economy is consistent with the vast empirical literature which emphasizes the nexus between finance and growth, as well as the view that the development of the financial system fosters growth via either a supply-leading (financial development encourages growth) or a demand-following (growth leads to demand for financial products) channel (see King and Levine, 1993; Rajan & Zingales, 2003).

5. Conclusions

This study has evaluated the causal links between financial inclusion and economic growth, as well as between financial inclusion and the five sectors of the Nigerian economy using cointegration and Granger causality test. The results suggest that there is bi-directional causality between financial inclusion and the aggregate economy. In most cases, there is bi-directional causality between financial inclusion and the sectors of the economy as well.

This study has established causal links between financial inclusion and growth. Financial inclusion can therefore be seen as a potent accelerator of economic progress, and can help realize the national objectives of building shared prosperity and abolishing extreme poverty. As well, this study has shown that financial usage has higher causal links with the economy and its sectors than financial access. For example, little benefits can be derivable from creating millions of dormant bank accounts. Therefore, a responsible pursuit of financial inclusion in Nigeria will emphasize not only creation of access to finance, but most importantly, its usage. Financial inclusion should not be for inclusion's sake.

Firstly, the key issue in banking the unbanked in Nigeria is the task of mainstreaming rural credit from banks and other financial intermediaries in such a way as to realize increased coverage, broaden financial inclusion and stimulate economic growth. The most important suggestion here is that the existing paradigm has to change: the extension of rural credit has to become a business opportunity, not an obligation for the banks. This will require reducing market and government failures. It is essential for policymakers to provide a conducive environment of good information, tough regulations, and competitiveness among financial service providers. These will aid the private sector in embracing technological innovations (i.e. biometric borrower identification and mobile banking) as well as product innovations (i.e. index insurance and commitment savings accounts).

As well, while microfinance, as a strategy for increased financial inclusion, has achieved wide popularity and acceptance, it will require the search for new credit channels, reduction in transaction costs, innovation in risk assessment and cheaper information technology for its continued relevance. Microfinance agencies need to look at rural lending as business opportunities. To be able to finance all the various rural activities, which can hasten economic growth, microfinance will undoubtedly need to intensify their efforts to reach the many underserved households and small enterprises. In fact a responsible pursuit of financial inclusion will necessitate consumer education about finance. Instead of classroom-based financial education, messages delivered via social networks and other engaging channels (i.e. soap operas) will have huge impacts.

Additionally, financial innovation and engineering can be useful in promoting financial access and usage. For example, the application of securitization could be introduced to securitize assets created by micro-finance and SMEs. The Islamic bonds, called Sukuk, is a good example of successful application of securitization. These marketable instruments can provide the much-needed funding for microfinance and SMEs by pooling their assets, issuing marketable securities, sharing the risks as well as freeing up capital for extra mobilization.

In the rural areas, improved infrastructure in terms of availability (of electricity) and connectivity (of rural roads and telecommunications) can lead to increased supply chain management, enhanced productivity of resources and greater surplus in agriculture. These advances can lead to higher demand for financial services in the rural areas. The implications of these advances for the financial sector are: One, with higher financial inclusion in the rural people, the financing intensity of agriculture will rise; two, with the improved rural infrastructure, increased number of rural non-farm activities (i.e. repair activities, housing, and restaurants) would be open for financing by the financial sector.

All over the world, there are various policy responses to low financial inclusion from the banking industry, the financial regulators and the governments. For example, in Sweden, Section 2 of the Banking Business Act, 1987 requires that a bank cannot refuse to open a saving/deposit account. In France, Article 58 of the Banking Act, 1984 emphasizes the right to a bank account. In the US, the Community Reinvestment Act, 1997, mandates federal bank regulatory agencies to rate banks based on their efforts to serve poor communities. The Nigerian government should take conscious steps in this direction.

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