Effect of Financial Inclusion on Economic Growth: The Case Study of Nigeria

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ABSTRACT

Financial Inclusion has been a widely discussed topic in recent years. This paper aims to analyze the effect of Financial Inclusion on economic growth in Nigeria. The use of descriptive analysis will try to explain the correlation between more inclusion and achievement of higher economic growth.

Nigeria is the most populous country in Africa and the largest oil producer, but statistics show the level of Financial Inclusion of citizens is very low. This thesis tries to explain why it is low and shows the factors that appear significant to achievement of Financial Inclusion.

Due to data limitations, instead of advanced time series techniques, the thesis employs a descriptive analysis for the period of 2005-2015. Results are not conclusive on whether or not the Financial Inclusion has an impact on economic growth. As more detailed data becomes available, further studies employing advanced time series techniques are recommended. A group of similar economies can also be analysed using appropriate panel data techniques.

Keywords: Financial Inclusion, Central Bank of Nigeria, GDP growth rate

ÖZ

Finansal erişim son zamanlarda çok tartışılan bir konu olmuştur. Bu tezde finansal erişimin Nijerya'da ekonomik büyüme üzerine etkisinin analiz edilmesi amaçlanmıştır. Tanımlayıcı istatistik yöntemi yardımıyla finansal erişim ve ekonomik büyüme arasındaki korelasyon tanımlanmaya çalışılmıştır.

Nijerya, Afrika ülkelerine kıyasla en popüler ve en fazla petrol üretimi yapan ülke olmasına rağmen, istatistiklere bakıldığında finansal erişimin vatandaşlar açısından düşük olduğu görülmektedir. Bu tezde finansal erişimin düşük olması ve finansal erişimin sağlanmasını etkileyen faktörler belirlenmeye çalışılmıştır.

Veri yetersizliğine bağlı olarak, ileri düzey zaman serileri yöntemleri yerine 2005-2015 yıllarını kapsayan tanımlayıcı istatistik yöntemi uygulanmıştır. Sonuçlar finansal erişimin ekonomik büyümenin üzerine etkisinin olup olmadığı yargısına varmamıza yardımcı olamamaktadır. Daha detaylı veriler incelendiğinde daha sonraki çalışmalarda ileri düzey zaman serisi teknikleri kullanımı önerilmektedir. Ayni özelliklere sahip ekonomiler gruplandırılarak uygun panel veri analizi teknikleri ile analizler yapılabilir.

Anahtar kelimeler: Finansal erişim, Nijerya Merkez Bankası, GSYIH büyüme oranı

I Dedicate this project to Mr. H.W ABDULLAHI & Mrs. HABIBA ABDULLAHI

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machines
CBN	Central Bank of Nigeria
EFInA	Enhancing Financial Innovation & Access
GDP	Gross Domestic Product
HDI	Human Development Index
IMF	International Monetary Fund
MFB	Microfinance Banks
MFIs	Microfinance Institutions
NFIS	National Financial Inclusion Strategy
OLS	Ordinary Least Squares
SMEs	Small and Medium-sized Enterprises
VAR	Vector Auto-Regression
WAEMU	West African Economic and Monetary Union

Chapter 1

INTRODUCTION

1.1 Background of Inclusion in the Economy

The emphasis in developing countries has shifted towards attainting greater sustainable development and economic growth in the long run. The inclusion of all sectors of the economy especially the financial sector promotes growth and reduces disparity in these countries. Thus, Financial Inclusion remains an emerging global hot topic; which is vital to the inclusive economic growth & sustainable development of these country Sadakkadulla (2007) & Subbarao (2010).

More than 50% of the adult population worldwide, lack access into the financial sector. Individuals in less developed economies are more affected with an estimated 60% lacking access to essential financial amenities. This leads to further exclusion from proper financial structure, thereby constraining global capacity for inclusive growth Frisby (2014). Financial exclusion has been proven threatening towards economic expansion of any economy which leads to further social exclusion. McKinnon & Shaw (1973) expanded on dangers which a repressive financial system on economies of developing countries and conclude that repression is unfavorable to economic growth. The concept of Financial Inclusion has undergone tremendous evolution in recent times within the financial sector in Nigeria. In very simple terms, Financial Inclusion means banking the ‘unbanked’. This means providing the individuals whose means of monetary transactions are carried out informally. Shankar (2011) noticed that

Financial Inclusion involves intensifying the access to the financial system at an inexpensive cost. Financial Inclusion is deemed critical to the attainment of poverty reduction, removal of barriers to economic participation of rural inhabitants of less developed economies.

1.2 Statement of Problem

Financial sector is an important aspect of economic growth in Nigeria, with a comprehensive agreement amid economists that there is an evident connection between Financial progress and economic development. This theory has received emphasizes over the years. According to Rajan & Zingales (2003), both in empirical and theoretical aspects Financial Inclusion provides conditions that lead to economic improvement. Among many include Kodan & Chhikara (2013), whom emphasized a small percentage increase in Financial Inclusion would lead to high Human Development Index (HDI) which is linked to greater economic development.

Although Nigeria is among the prevalent economies in Africa, little emphasizes has been directed towards Financial Inclusion, where only a minor percentage of the adult population are included. According to a survey done by Enhancing Financial Innovation & Access (EFInA) in Nigeria, "about 39.7% of adult population are not included in the financial sector" EFInA (2013). Mbutor & Ibrahim (2013) explained how Nigeria has a formal payments penetration of 21.6%, that is lower than the level of 46% in both South Africa and Kenya.

The Central Bank of Nigeria (CBN) has undergone many reforms in order to make Nigeria a significant economic player by 2020. One of the main reason there is lack of financial services access, is due to poverty and lack of education. Accordingly, this research aims to attempt and examine the impact of Financial Inclusion on economic growth and development within Nigeria.

1.3 Significance of the Study

This study aims to aid in identifying some of the problems that mitigate the lack of Financial Inclusion of individuals within Nigeria. The findings of this research will attempt to answer the question of how a large number of individuals within the populous economy lack access to basic financial services. The study also tries to shed some light on how economic progress can be attained through greater Financial Inclusion by the society.

1.4 Purpose of the Study

The aim in this thesis is to investigate the effect of Financial Inclusion on the Nigerian economy and its consequences on Real GDP growth in Nigeria, through examining measures and strategies to be used in achieving Financial Inclusion. Cashless economy is also a branch of Financial Inclusion which acts as the vehicle of the financial amenities. The main objectives in the study is to investigate the impact of Financial Inclusion on the economic growth, researching the effects of awareness of digital means on Financial Inclusion. Furthermore, the study aims to understand how Financial Inclusion can improve using these financial amenities which in return will boost economic growth.

1.5 Research Question

The study designs to provide answer to the following research question:

1. Can high economic growth be attainted through greater Financial Inclusion in Nigeria?

1.6 Research Methodology

Using descriptive research method, this paper will try to analyze the impact of Financial Inclusion on economic growth in Nigeria. Data is collected from the World Bank and International Monetary Fund (IMF) from 2005-2015. Graphs and tables are used in order to explain the results of the study. The 3 dimensions of the Financial Inclusion index explains, how to measure Financial Inclusion and Real GDP growth using meek correlation. Chapter 4 gives are broader explanation of the methodology.

Chapter 2

LITERATURE REVIEW

Financial service is important to growth by enabling economic progress and lessening the disparity among income-earners. It aids in providing access and usage of these services to the large number of poor people in the country. This chapter consists discuss the theories linking Financial Inclusion and economic growth, and review of literature in research shown by other academics.

The effort to achieve growth in the long run through inclusion within the society by creating accessibility to low income earners. This is done through investing their limited savings into education and entrepreneurial ventures. The ardent move by the less developed economies, towards assimilating inclusion of financial services leads to economic growth and bridging the gap of income inequality.

2.1 Keynesian Economic Theory

The Keynesian school of economics is associated with focus on direct outcome of economic models. They concentrate on which policies indicate the short-term needs and how these policies can lead to immediate improvements of the general economy of a nation.

Rangarajan (1998) argued the acceptance of Keynesian thought focused on maintaining short run stability of output by enforcement of "forced saving" which was achieve through the "the money illusion" hypothesis and low interest rate would lead to more investment in the economy by inclusion of the financial sector. Keynesian theory explains how government expansion would lead to financial strengthening or inclusion. McKinnon (1973) states this increase in spending would lead to increase in aggregate demand and income hence increase in money demand.

Robinson (1952) explains that increase in demand from financial area is caused by the need to achieve greater economic growth. This addition explains greater demand for usage of money is due to developments in the economy, in return stimulates financial development. Improving the financial sector and access to money diminishes poverty as well as income difference.

2.2 Neo Classical Growth Theory

Technological progress, accumulation of input factors i.e. labor and capital would lead to greater economic growth. This is the neo-classical economy theory, which accumulation of capital is achieved with the service of financial sector. The neoclassical growth theory which is developed by Solow (1956) is inspired from Harrod-Domar's model of economic growth, emphasizing on capital accumulation in the growth process.

It is shown by a long-run growth model, which is derived from equations that includes two production factors of capital & labor and change in technology is exogenous. The role of Financial Inclusion is to increase capital accumulation through drawing foreign and domestic investment, in return helps accelerate efficiency.

The use of technology in Financial Inclusion i.e. mobile banking can help poorer countries access to financial benefits hence economic growth. King & Levine (1993) in their study explained using cross-sectional data how economic progress is achieved through financial system. They found out economies that include more physical capital and higher proportion of accumulated capital, lead to enhancement in economic efficiency.

2.3 Endogenous Growth Theory

New Growth Theory is different from Neo Classical approach by dismissing its main assumption. It argues that technological progress is endogenous factors within the production process generate economic growth. The enhancement of human capital and emphasizes on the role of entrepreneurship and innovation, which allows access for finance to direct incentives to research and innovation. It emphasizes that economic growth results from increasing returns to the use of knowledge.

2.4 Solow Growth Model

The Solow growth model is aimed explaining a country's real GDP can increase by more capital and labor products and also technological improvements. The model explains two inputs that the output depends on which are Capital stock and human stock i.e. labor with production function. Taking into account this model, an increase in financial services by greater Financial Inclusion directly lead to a greater economic growth. According to Sarma (2015) study emphasis Financial Inclusion to be dynamic force of economic growth and positive correlation between finance & growth nexus precisely in developing economies.

2.5 Review of Empirical Literature

Improving access and building inclusive financial systems is a goal that is relevant to economies at all levels of development. Most of developing economies have made tremendous changes in order to formalize financial services to underprivileged population, and a lot of studies have been made to see the importance of Financial

Inclusion in the development and growth of these economies. The importance of Financial Inclusion has been backed with growing body of literature and evidence.

The importance of Financial Inclusion and how it affects economic growth and development, and they find a positive correlation between them. Nanda & Kaur (2016) using Human Development Index (HDI) as measure for economic development and Financial Inclusion index in a cross-country analysis found countries recording higher level of inclusion are observed to be categorized by high income and high level of socio-economic development, the reverse is also true for the countries with a low level of Financial Inclusion. Saab (2017) used Vector Auto regression (VAR) regression to quantify the relationship between Financial Inclusion & economic growth, and to study its impact in the Middle East and North African region. Findings showed the importance of Financial Inclusion in this part of the world. King & Levine (1993) study used cross-country econometric results suggest, that financial services have an important link with the economic growth and productivity improvements. They used OLS regression on data from 80 countries over the 1960-1989 period. Sharma (2015) answered the main question of the nexus between Financial Inclusion and economic growth in India. Using vector auto-regression (VAR) models and Granger causality test, where results and discussion suggest that there is a positive association between economic growth and multi-dimensions of Financial Inclusion. To continue on this path, Sharma & Kukreja (2016) study of the importance of Financial Inclusion for developing economies. The research focused on role of Financial Inclusion on India's economy, leading to an inference that it acts as a catalyst in development of both the economy and society. CBN (2013) found huge percentage of African population are financially excluded, due to lack of financial instruments although there is high propensity to save through informal means. Gourene & Mendy (2017) explained the causal relationship between Financial Inclusion and economic growth in the West African Economic and Monetary Union (WAEMU) using heterogeneity panel causality test. Results suggested in the short-run no causality; however, in the long-run there is bi-directional causality between economic growth and Financial Inclusion. Onaolapo (2015) explained the effects of Financial Inclusion on economic growth in Nigeria using Ordinary Least Squares (OLS) shows significant relationship between Financial Inclusion and poverty reduction in Nigeria.

Chapter 3

OVERVIEW OF FINANCIAL INCLUSION IN NIGERIA

3.1 Definition of Financial Inclusion

The concept of Financial Inclusion has an emergent agreement on how important the topic is to the entire monetary segment of the economy; however, this agreement is not extended to the definition. Rangarajan Committee (2008) defined Financial Inclusion as:

> "process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost". Pg.1

Many other researchers have contributed to this definition. The World Bank defined Financial Inclusion as showing that entities and companies, have access to beneficial and inexpensive financial products and facilities that meet their needs. These include transactions, payments, savings, credit and insurance delivered in a viable manner.

3.2 The Concept of Financial Inclusion

Many refer to Financial Inclusion as 'banking the bank-less' and many other similar phrases. This actually portrays a vague characterization of the idea. The concept of financial deepening is assumed the same as Financial Inclusion; however, they vary. Financial deepening is defined as the improvement or increase in the pool of financial services that are designed to all levels in the society. Increasing financial deepening is directly correlated to substantial progress and development in the financial sector, which very noticeable in advanced economies. According to Demirgüç-Kunt & Levine

(2008), one can express wider approach to financial amenities associated to lack of value and non-value obstacles in using these financial amenities.

3.3 Historical Profile of Nigerian Financial Inclusion

Despite being the most populous African nation and top African economy, Nigeria is a mid-level player in the Sub-Saharan banking sector. It halts behind some of its peers in Africa with regard to Financial Inclusion. Although the Central bank of Nigeria has officially acknowledged financial exclusion as a major economic challenge, it has laid down a strategy in which it can be combatted through encouraging positive development. There has been a shift towards the elements that develop the Financial Inclusive sector rather that financial expansion. In 2012, the CBN launched the Financial Inclusion strategy aimed at reducing financial exclusion to 20% in 2020.

Nigeria has experienced financial exclusion for a long period. According to Okoye & et al. (2005), the account of Financial Inclusion in Nigeria dates back to 1976 with the eminent Nigerian economist Dr. Pius Okigbo. He contributed to disentangling African economic difficulties. Dr. Pius headed a committee to inspect the capability, significance or otherwise of the make-up of the Nigerian financial system to meet the needs of the economy for rapid development. Okafor (2011) states following the committee's report, the rural banking scheme was introduced in 1977, in order to promote the habit of banking among the rural population, harness their savings, enhance delivery of credit to the active rural poor and thereby reduce the flight of both funds and people from the rural to urban areas. The CBN (2013) explained in Table 1 how the scheme increased inclusive growth in the span of 3 years.

Table 1: Old banking schedule 1977-1983

	Primary stage (1977 - 1980)	**Secondary stage (1980 - 1983**
Amount of Banks	20	20
Distribution	200	266
Results by end-June 1980	188	-
Results by end-December 1980	194	-
Results by end-December 1981	199	38
Results by end-December 1982	200	121
Results by end-December 1983	200	181

Source: Data collected from CBN (2013)

Reducing leakages and gaps of government benefits & subsidies has been a major challenge. However; this has been achieved through the introduction of Financial Inclusion, which means direct benefit transfers to recipients' bank accounts instead of using cash payments. Yorulmaz (2013) explained how an inclusive financial system promotes effective allocation of productive resources, and a more efficient use of resources will likely reduce the cost of capital.

3.3.1 Categorization of Financial Inclusion in Nigeria

In Nigeria, the financial structure is generally distributed into two segments, these are regarded as the unauthorized and authorized segments. The unauthorized segment lacks official recognized structure, which consist of the limited monetary establishments i.e. funds and credit associations. According to Olofin & Afangideh (2008) the unauthorized segment is inadequately established, inaccessible and incorporated into the authorized financial sector. Demirguc-Kunt & al (2015) explained that more than half of the Nigerian adult population were reportedly financially excluded in 2014, while 69% of adult Nigerians are formally served, only 44% are financially included. As part of the efforts to address the high rate of financial exclusion, Nigeria has designed National Financial Inclusion Strategy (NFIS) towards including more Nigerians into this authorized segment. In order to reach 70% of total population by year 2020, the strategy is projected to specific targets for the identified services. This comprises of payments, savings, credit, insurance and pension, as well as targets for the corresponding channels of service delivery.

3.4 Objective of Central Bank of Nigeria on Financial Inclusion

More than half of the central banks measured have some sort of mandate to focus on Financial Inclusion. Initiatives are placed to enhance the financial sector within the country, in order to align with the Financial Inclusion objective. According to CBN (2013), this involves encouragement of saving, increasing accessible payment methods through more financial amenities. This will provide easy access of service to the 'unbanked' population.

3.5 Policy Reforms and Strategy on Financial Inclusion in Nigeria

In recent years, many policies have been introduced targeted towards deepening of Financial Inclusion in Nigeria. CBN (2013) states how the policies have extended to different sectors such as microfinance sectors where programs are placed to ensure the population excluded can receive financial services. With introduction NFIS in 2012, the central bank has been on the forefront of promoting many new policies & strategies towards the direction of Financial Inclusion. The FSS2020 strategy, framework map which shows how Financial Inclusion through more access to financial amenities would be increase by 80% in 2020 with the help of initiatives set in place in order for adults. FSS2020 recognizes 6 stakeholders in the financial sectors which are expansion partners, banks, financial market, insurance companies, Mobile firms and governmental institutions.

3.5.1 Microfinance Policy for Financial Inclusion

Microfinance Institutions (MFIs) focuses on offering financial amenities to less privileged individuals. Services such as savings and credits; that are provided with the aim to develop the livelihood of small business owner, both in rural dwellings and urban cities. CBN (2012) states that the micro finance model can help reduce poverty through providing financial services to low-income earners. According to Okeyo, Gathungu, & K'Obonyo (2016) the introduction of the micro-finance services follows the recognition of the role of small business development as a means of boosting employment and income for the majority poor and low-income earners by governments, development agencies and researchers over the years.

In 2005, the Nigerian government introduced the National Microfinance Policy which provides inclusion to private-owned microfinance institutions into microfinance model. These institutions consist of financial NGOs, trade associations etc. which served as a key medium for inclusion for the informal sector. CBN (2012) with the establishment of microfinance banks, through Financial Inclusion strategy has boosted Microfinance banks (MFB) loan and advancements from 16 billion naira in 2006 to an estimated 67.6 billion by December 2011; increase of 87.9%. The findings show MFIs has a positive relationship on growth of Small and Medium-sized Enterprises (SMEs). Decker (2012) established that MFIs should diversify their credits and savings as key financial products that are critical to empowerment as the first step towards Financial Inclusion, balancing their operations as commercial, NGOs or Government programs to meet the financial needs of people at different levels.

3.6 Cashless Policy and its Effects on Financial Inclusion in Nigeria

Global technological evolution and advancement has created awareness on monetary management in developing countries which in return has paved way for the demand of physical cash to decrease. It has introduced many discussions on the link between Financial Inclusion and cashless policy. Cashless policy a system which does not require the use of physical money note as transactions are done through electronic or card method of payment of good and services. Odior & Banuso (2012) explain how economic growth can be achieve through efficient payment system. The main objective of the cashless policy is reducing bank cost to serve.

Financial Inclusion can be achieved through the payment sector, thus relevancy of the cashless policy. This can be accomplished by providing the excluded with a financially safe and easy store of value i.e. bank account or electronic method. Once achieved, the financial institutions can initiate the use of electronic transaction which can spam from Automated Teller Machines (ATM) use of withdraw and beyond. Although there is no conclusive evidence that cashless policy has a direct impact on Financial Inclusion in Nigeria, Bayero (2015) explained using empirical evidence the how Financial Inclusion can be achieved through cashless policy using multiple linear regression. Findings on cashless policy instruments i.e. ATM, uninterrupted power supply, internet service & awareness are statistically significance to Financial Inclusion but no direct effect of the policy itself on Financial Inclusion. The question is if cashless policy can lead to more Financial Inclusion. As stated above, there is a relationship between electronic transactions and proportion of ‘banked people’. However, correlation does not establish causation.

3.6.1 E-banking & Electronic Payment System

The key targets of Financial Inclusion are the e-banking services. E-Banking according to Okoegwale (2012) & Sarma (2015) is providing of banking and financial services via a mobile device or any electronic system. CBN (2012) explained how in the recent times it has increase promotion on branchless means by banks i.e. POS and ATMs. The number of ATMs deployed by end of 2011 stood at 9,640, giving an average of 11 ATMs per 100,000 adults. Since the implementation of the cashless policy, the main objective is to improve effectiveness of monetary policy, and reduce banking cost in order to increase Financial Inclusion within Nigeria. The main focus is on developing its banking sector to reduce reliance on cash and number of other costs i.e. high cost. Costs increases as business owners or individual hold large volume cash at hand. There are few different methods of cashless payment in Nigeria, this includes card payment i.e. credit & debit cards, ATM, electronic transfer funds, mobile & internet banking.

3.7 Problems of Financial Inclusion in Nigeria

As statistics have shown; less than 50% of adult population worldwide are financial included i.e. having financial access is a global challenge. Although Nigeria has undergone a large number of financial reform over the years since independence, some of these reforms has led to growth of the financial sector and in return the economy as a whole, whereas other issues remain prevalent within the economy.

The major challenges in any economy are faced by the less privileged, and this plays into the situation of the country's Human Development Index (HDI) and economic growth. Including rural dwellers into the financial sector is very important, considering the lack of financial superiority within the financial sector which is generally associated with low financial literacy. The rural dwellers and working-class citizens in Nigeria often lack the basic knowledge of financial service and reimbursements which is derived from Financial Inclusion. The issue can be tackle by more customer awareness and accessible customer service is offered by the financial establishments. It can also reduce illiteracy within the rural settlement in the country.

Security is another issue that discourages the use of these financial services, with many individuals main concerns about the possibility of cyber hacking. This has also led to lower participation in financial sector. There are many increasing reasons why nations need to be Financial Inclusive, however in Nigeria it is the growing retail industry. This sector lacks formal Financial Inclusion, since the typical businessman in Nigeria, use their specific accounting system in many case has been pass down from generation.

Thus, for the banking sector in Nigeria to grow; increase in banking services availability and access has to be accommodated for the progress of Financial Inclusion in the country. According to CBN (2013), concerns about the method of saving within the population. There is a hindrance to save due to negative real interest rates which is caused by high inflation rate in the country, this has led to large percentage of savers continue to local financial service.

Table 2: Knowledge about banking services

	Has heard & knows what it means	**Has heard but doesn't know what it means**	**Has never heard of it**
Bank	84.60%	7.50%	7.90%
Interest	71.50%	10.50%	18.50%
Loan	69.90%	13.10%	17.00%
Savings Account	59.50%	12.90%	27.60%
Pension	55.10%	17.80%	27.10%
Cheque	54.5%	15.70%	29.80%
ATM Card	45.70%	16.20%	38.10%
Current Account	44.10%	18.50%	37.40%
Insurance	35.90%	21.30%	42.80%
Microfinancing	35.50%	19.80%	44.70%
Credit card	15.60%	15.80%	68.60%

Source: Data collected from CBN (2013)

As stated above, the irregular and uncompetitive level of wages has also become a disincentive to save for many low-income earners with people earning less than $2 per day. Another main issue is the lack of sufficient e-channels services within the country; According to CBN (2013), e-banking channels have remained diminished causing consumers the ability to use an easier and preferable method of payment and transaction.

Chapter 4

DATA AND METHODOLGY

This chapter sets out to explain the method of this research, the data collection process, how the data collected are analyzed and transformed into information that would answer the research question.

4.1 Source of Variables and Data

This study shows the indicators expressed in the literature by Sarma (2010) on Financial Inclusion. It utilizes secondary annual data on Nigeria from 2005 to 2015 which is divided in to pre (2005-2011) & post (2012-2015) Financial Inclusion strategy implementation. Sources are World Bank databank, International Monetary Fund (IMF), CBN. Data collected will be presented in graph and table form.

4.2 Methodology and Technique

The methodology used in this study is descriptive analysis which aids us to gauge the role of Financial Inclusion on growth of the economy. Descriptive analysis deals with measurement of spread and tendency, which includes: mean, variance, standard deviation, range etc. to explain the effect of Financial Inclusion indicators on economic growth.

4.3 Measure of Financial Inclusion

(Sarma, 2008) explains how 3 basic dimensions can be used to explain Financial Inclusion. These are penetration of banking institutions, availability or access of banking services and bank service usage.

4.3.1 Penetration of Banking Institutions

Banking penetration gives us a demographical representation of number of users of banking services in the formal inclusive financial system. This shows the number of depositors and borrowers with commercial banks (per 1000 adults) giving the overall amount of the 'banked' population.

4.3.2 Availability or Access of Banking Service

The services provided by an inclusive financial system should be accessible and available to bank service users. This dimension provides the demographic and geographic depiction of service availability. Demography is represented by access to number of Automated Teller Machines (ATM) and number of commercial bank branches (per 1000 adults). Whereas geography is represented by number of ATM and number of commercial bank branches (per 1000km2) to measure the availability.

4.3.3 Bank Service Usage

This dimension is used in measuring the amount of deposit and loans in respect to the country's GDP. Since loans and deposits are 2 important aspect of the banking sector, capturing outstanding deposits and loans with commercial banks (% of GDP). It will give us a clear understanding about people who have access to bank service i.e. "banked", but make very little to no use of these services i.e. utilization of bank services. This will explain the difference between being Financial Inclusion and Financial deepening.

Chapter 5

INTERPRETATION OF RESULTS AND DISCUSSION

5.1 Descriptive Statistics

In this part of the thesis, an in-depth analysis is first going to be presented about the macroeconomic and financial indicators, using descriptive analysis. The study uses two; pre-and post-policy segments, which will be employed to explain the policy of Financial Inclusion.

The table below shows the results of mean calculated (Look at appendix 1) of Financial Inclusion indicators that are important variables of financial inclusion. The results are as follows:

Table 3: Descriptive statistics from pre-policy 2005-2011 to post policy 2012-2015

Variables	**Mean pre-policy**	**Mean post-policy**
Number of deposit account	435	648
Number of loan accounts	28	29
Number of ATM per 1000km2	7	15
Number of bank per 1000km2	5	6
Number of ATM per 1000 adults	7	14
Number of bank per 1000 adults	5.5	5.7
Outstanding loan % of GDP	20	13
Outstanding deposit % of GDP	25	20

Source: Data collected from World bank

5.1.1 Banking Penetration

The two main variables which indicates the general population who have accounts with the financial institution or the banking system. Taking number of depositors with commercial banks each 1000 adults first, Table 3 gives us the mean difference between pre-and post-policy change from 435 to 648 each 1000 adults. This means more inclusion within the financial system by the "banked" population. Now looking at the number of loan accounts, the change is not quite significant, with only a change of 3.57% in mean from 2005-2011 and 2012-2015. This means very little amount of bank account owner took out loan during those periods.

5.1.2 Access

Here the study examines the accessibility of bank account owners to their commercial banks ATM within 1000km2 radius. Looking at the mean before policy was placed, it was 6.845 approximately 7 machines at that distance. However, post policy the mean number of ATM machines doubles to 15.323 machines.

This indicates that more bank account through penetration, more financial services are provided to customers. Number of mean ATM per 1000 adults has also doubled since introduction of the policy, more inclusion means more services provided by the banking system in order to encourage more financial participation through the use of these cashless service services. On the average per 1000 adults, at least 50.157% have access to an ATM machines. Now the study will look at the bank branches, proximity and amount per 1000 adults. Observing the changes in the mean, on the average the number of bank branches per 1000km2. This indicates the total number of banks has only changed insignificantly post policy change within the country.

5.1.3 Usage

This shows the usage of the banking system pre-and post-policy change in respective to outstanding loan and deposit % of the GDP. The mean of both have fallen post financial policy, but the Real GDP growth rate can be affected by inflation and other macroeconomic variables. This gives us a more understanding on being “included” in the financial sector.

5.2 Data Analysis of Financial Inclusion Indicators

In order to understand the Financial Inclusion indicators and how they can be used to measure inclusive growth in comparison to Real GDP growth rate, data will be presented and explained in graphs below.

5.2.1 Banking Penetration Indicators

Banking penetration highlights financial deepening but not necessarily inclusion, Beck (2016) stated with barriers such as loan applications, minimum account and loan balances, number of documents required to open a bank account, and fees for financial services prevent a major of the poor population from being financially included.

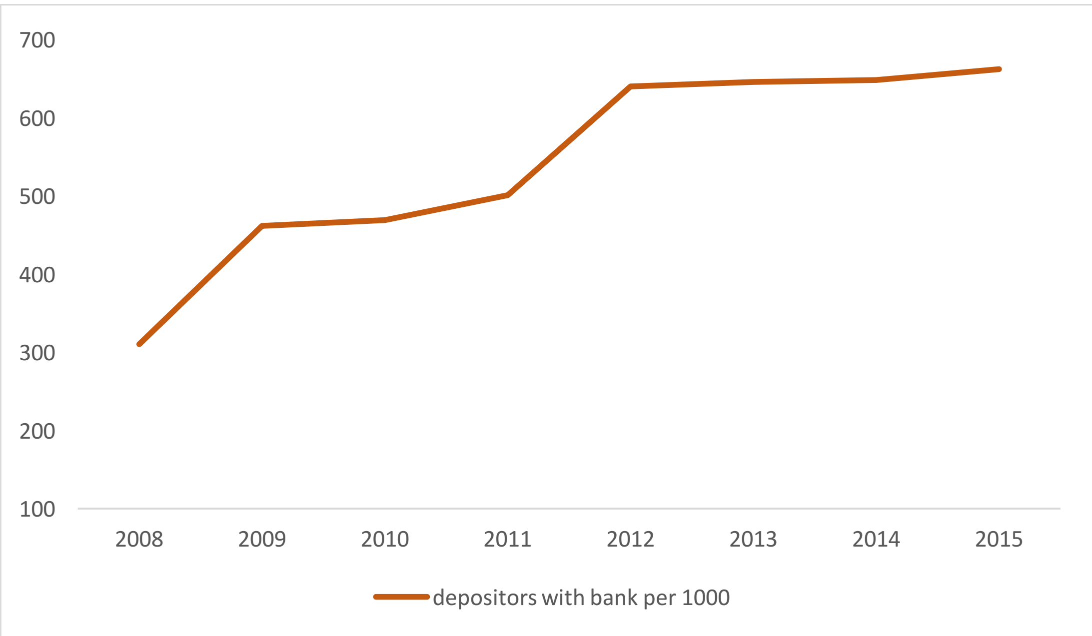

Figure 1: Number of Depositors with Commercial Banks in Nigeria (2008-2015)

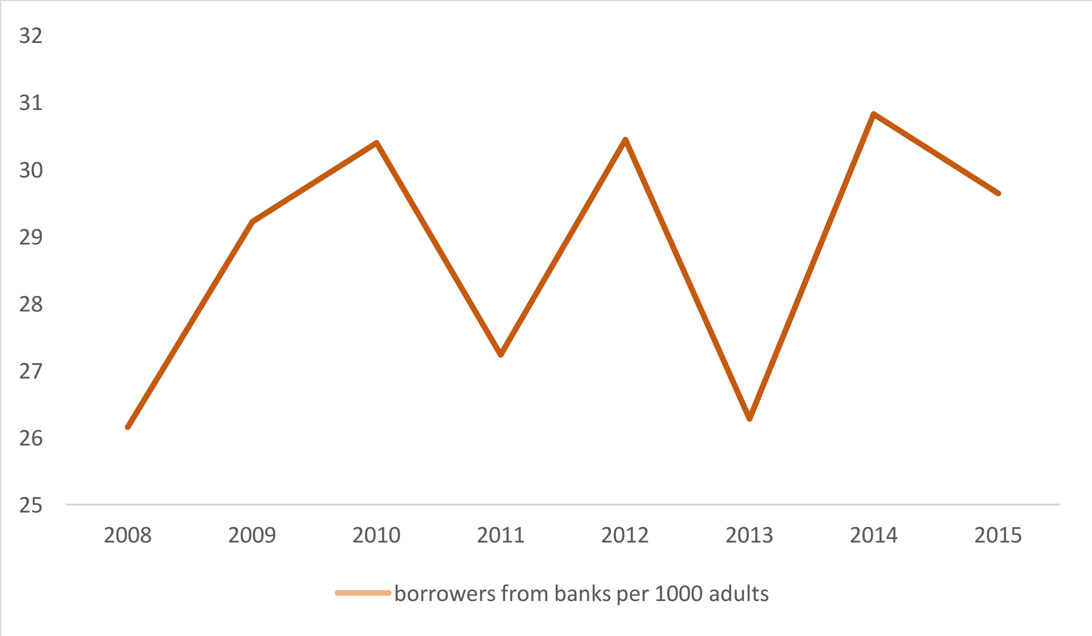

Figure 2: Number of Borrowers from Commercial Banks in Nigeria (2008-2015)

Figure 1 shows the overall number of borrowers pre-and post-policy, with an evident significant increase in depositors since 2011. This indicates a greater financial deepening into the distribution of formal financial sector across demographic units. Although the main focus of the Financial Inclusion debate has been on individuals owning an account, more recently the attention has shifted towards the actual use of such accounts. This will be explained in the usage dimension of Financial Inclusion. The data for banking penetration has been collected post financial crisis of 2007-2008. Figure 2 however indicates between 2012-2013 the number of loan collected from commercial banks fell sharply and numbers are quiet low compared to number of bank depositors that are in hundreds.

5.2.2 Banking Service Usage

This dimension captures the use of the financial services provided by the banking service. This gives us a comparative understanding of Financial Inclusion with respect to percentage of the GDP per capita of Nigeria. The use of these service is the main target of this study.

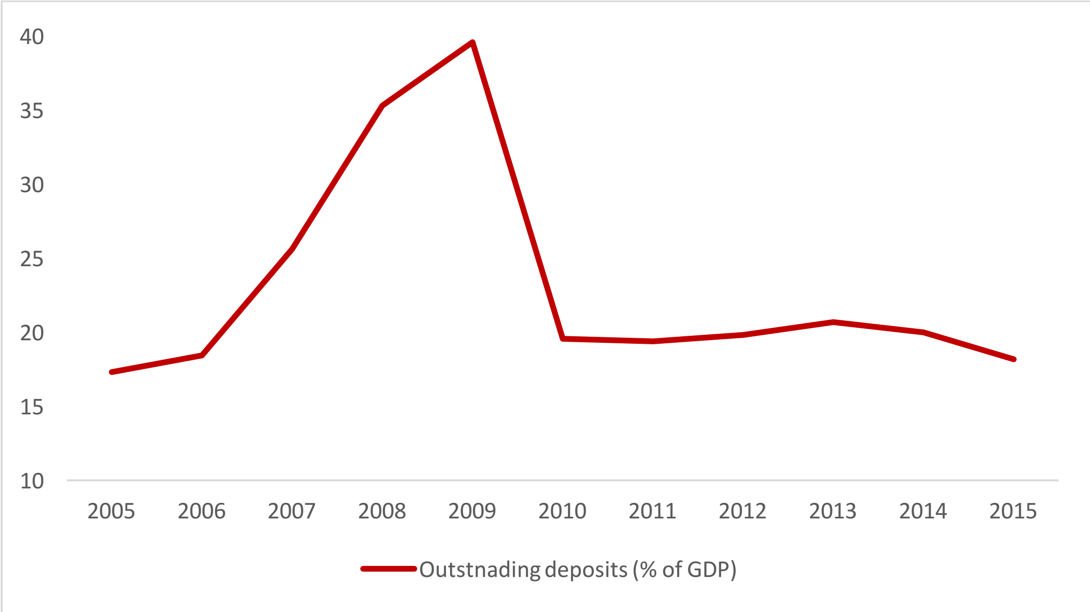

Figure 3: Outstanding Deposits with Commercial Banks in Nigeria (2005-2015)

On this graph, we notice a sharp fall in deposit ratio of GDP by -20.04% between 2009-2010. However, the levels of deposit since 2010 has remained stable with slight decrease in 2014. Taking this into account with respect to GDP growth rate which in 2014 has also indicated a reduction.

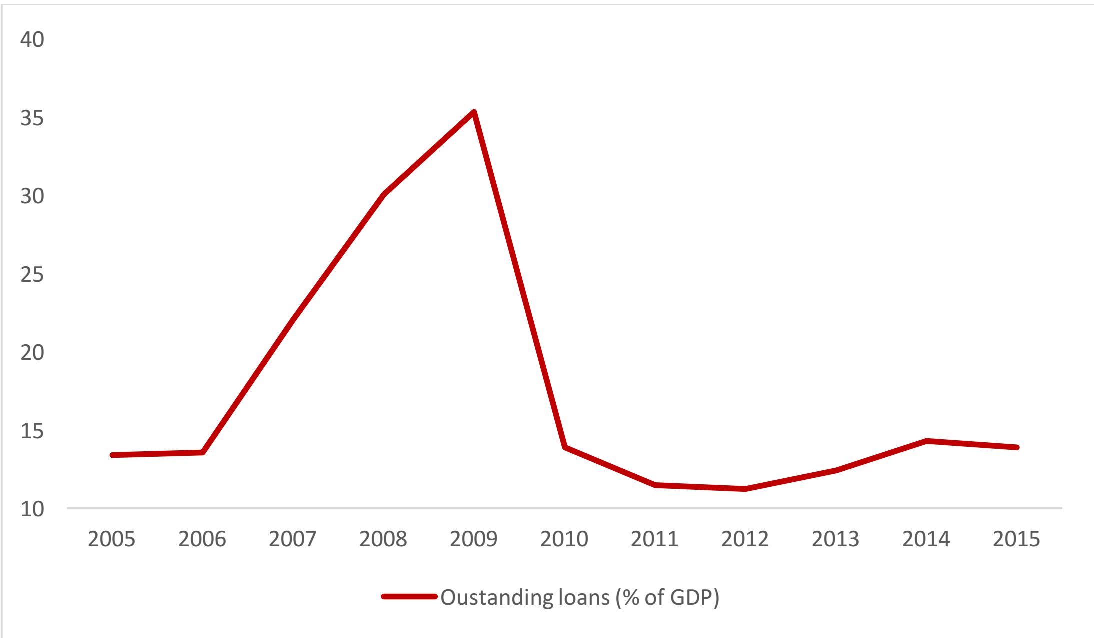

Figure 4: Outstanding Loans with Commercial Banks in Nigeria (2005-2015)

Similarly, in figure 4 the percentage of outstanding loans has fallen with respect to % of GDP in 2009 and has since then increased gradually post policy implementation. This suggests that people that own accounts in the banking service are making use of the financial service provided, indicating more inclusion in the economy. In comparison to GDP, more people in the formal banking sector are captured in this analysis.

5.2.3 Availability or Access of Banking Service

In this dimension, it is divided into demography and geographical access to banking services that is provided to formally inclusive account owners. The geography for number of ATM and commercial bank branches will give us a clear understanding of an inclusive economy. Geographical representation of access and availability of banking service has increased post policy implementation. The figures below, Figure 5 shows a continuous increase in the number and figure 6 also indicate a stable amount of bank over the years.

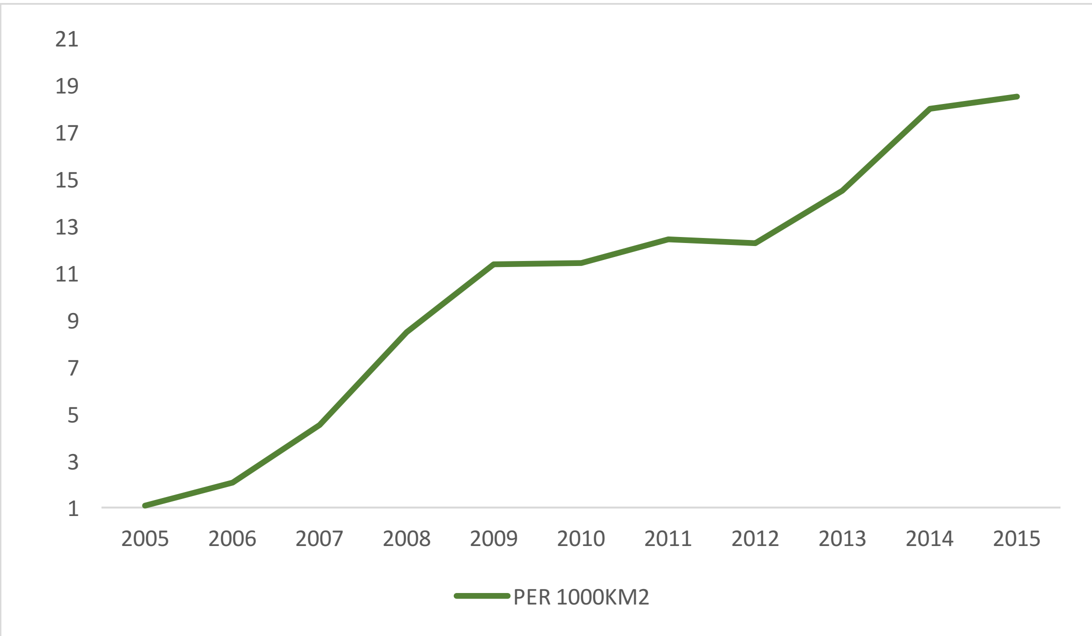

Figure 5: Number of ATM per 1000km2 (2005-2015)

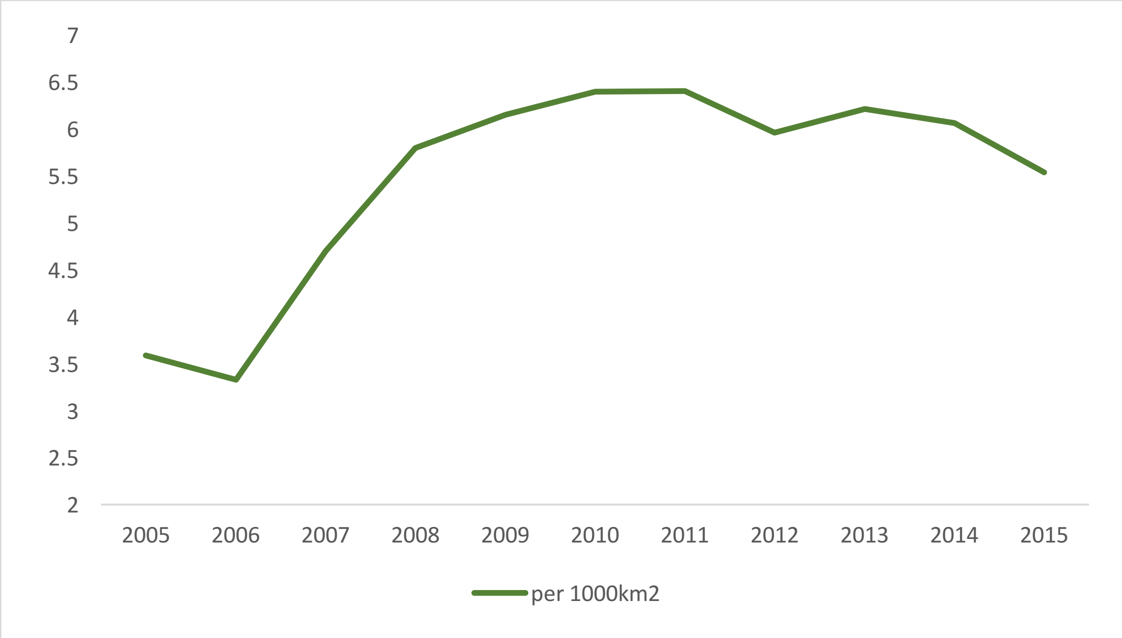

Figure 6: Number of Bank Branches per 1000km2 (2005-2015)

Figure 5 shows an ascending access to banking amenities especially ATM and bank branches within 1000km2 radius. Greater accessibility to these amenities shows this dimension is likely to increase the usage which is linked to more inclusion of bank account owners.

Chapter 6

CONCLUSION AND RECOMMENDATION

6.1 Findings and Conclusion

In this chapter, results of the descriptive analysis were discussed in depth and the effects on economic growth by greater influence of Financial Inclusion. The main of the study was to determine if there is an effect between Financial Inclusion and economic growth in Nigeria, the study shows there might be a correlation between more Financial Inclusion, leading to higher economic growth rate through descriptive analysis.

Variables chosen for this study are according to Sharma (2015). This finding suggests the importance in understanding Financial Inclusion in the developing economies, it is evident from the previous empirical results and discussion that banking penetration, availability of banking services and usage of banking services for help in economic development. This study highlights the function of Financial Inclusion in terms of financial development. Therefore, it is clear that Financial Inclusion is not only an integral part of social banking but also a significant parameter in the financial development of any economy.

6.2 Limitations and Suggestions

In conclusion, Financial Inclusion indicators were unable to capture the effect of Financial Inclusion on economic growth in Nigeria. Effects on GDP can be taken through other variables in future studies. The duration of this study is 10 years, this is lack of availability since its limited only to Nigeria. Nevertheless; it is recommended that when more data gets available, a lengthier duration might accomplish more broader results. Additionally, one can also conduct a cross-country analysis to get a more broader perspective for the research question of this thesis.

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APPENDIX

APPENDIX A: Descriptive Statistics

	Mean	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Range	Minimum	Maximum	Sum	Confidence Level(95.0%)
GDP GROWTH RATE %	3.445	8.211	6.828	6.270	6.934	7.840	4.887	4.279	5.394	6.310	2.653	
number of deposit accounts	541.805	44.995	569.912	127.266	16196.552	-0.294	-0.791	352.354	309.536	661.890	4334.441	106.397
number of loan accounts	28.768	0.681	29.423	1.926	3.710	-1.815	-0.500	4.670	26.150	30.820	230.145	1.610
number of ATM per 1000km	9.928	1.769	10.934	5.868	34.431	-0.828	-0.343	17.429	0.584	18.013	109.210	3.942
number of ATM per 0.1m adults	9.760	1.605	11.457	5.323	28.336	-0.682	-0.653	15.523	0.680	16.203	107.356	3.576
number of bank branches per 1000km	5.465	0.333	5.961	1.103	1.217	0.285	-1.287	3.075	3.326	6.401	60.117	0.741
number of bank branches per 0.1adults	5.596	0.277	5.815	0.920	0.846	0.216	-1.017	2.782	3.779	6.561	61.553	0.618
outstanding credit % GDP	17.405	2.460	13.885	8.159	66.562	1.340	1.587	24.089	11.226	35.315	191.460	5.481
outstanding deposits % GDP	23.061	2.257	19.816	7.484	56.012	1.658	1.683	22.307	17.278	39.586	253.668	5.028