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A COINTEGRATION ANALYSIS OF THE RELATIONSHIP BETWEEN MONEY SUPPLY AND FINANCIAL INCLUSION IN NIGERIA (1981-2016)

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ABSTRACT

Many people are still excluded from accessing formal financial services in Nigeria, despite the present growth in economic sector and the fact that nations around the world have used their financial policies successfully to drive their initiatives of financial inclusion. CBN 2018 studies show that just 58.4% of Nigeria's 96.4 million adults were economically assisted and only 48.6% of all adults used proper economic services as of year 2016.This research examined the relationship between financial inclusion and money supply in Nigeria (1981-2016).

Research accept an exposit factor research design wherein time series statistics were collected through secondary causes from The IMF Financial Access Survey (FAS) the Central Bank of Nigeria and over thirty-six years study period. Information were collected on monetary inclusion proxied with total loans of rural banks, total deposit of rural banks, the number of Automated Teller Machines (ATM) per 100,000 adults and total number of commercial bank branches. Graphs and tables were used to demonstrate the trend over the study period for Money Supply and monetary inclusion indices. Cointegration, Multiple Regression and Error Correction Model were used to examine the data collected.

Results revealed important positive relationships between currency supply and total loan of rural banks (t=4.651, p=0.001),total credit to individuals(t=4.427, p=0.0001), number of bank branches (t=1.734, p=0.094) and the number of ATMs per 100,000 adults(t=3.605, p=0.0012). The regressed standard errors were very less and the multiple determination coefficient (R^2) was 0.56. The research determined that a positive and significance two-way relationship occur between money supply and financial inclusion.

Based on the result of the research, it is therefore suggested that Central Bank of Nigeria (CBN) should implement financial policies that will generate a positive investment climate through market based interest rate that will inspire investments and absolutely impact money supply and hence lead to rise in the financial inclusion level.

KEYWORDS: *Research, Statistics, financial*

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INTRODUCTION

Banking services and other financial institutions have revealed marvelous growth in capacity and complication during the previous few eras in Nigeria. Despite the important developments in all the parts relating to profitability,

financial viability and competitiveness, there are problems that the monetary sector has not been able to contain vast section of the population, particularly the disadvantaged sections of the society, into the fold of fundamental economic services.

One of the common aspects of the financial environment in numerous developing markets and developing frugalities is limited admittance to the formal financial sector. Facts from the World Bank suggest that 50% of adults worldwide did not have aversion at a formal financial institution in 2011 based on a household survey in 148 financial prudence (Demirguc-Kunt and Thorsten 2012).

Monetary inclusion has therefore sustained to assume growing recognition across the world among researchers and development-oriented agencies and policy makers. Its significance originates from the potential it holds as a tool for the development of economy, mainly in the areas of generation of employment, poverty reduction, wealth creation and refining welfare and general living standard.

The Central Bank of Nigeria and other stakeholders in monetary addition wish to implement National Financial Inclusion Strategy that will decrease the adult Nigerians percentage that are excepted from monetary services by year 2020. The financial inclusion policy has been planned in several methods to support the essential directives of the Central Bank of Nigeria. For example, the command of certifying economic and price stability is to be discussed by influencing investment, savings and consumption behavior through exchange rates and interest changes.According to (CBN 2018), Nigeria is not on way to see the 2020 targets set out in the National Financial Inclusion Strategy (NFIS) of 2012. For the year 2020, the NFIS set two monetary inclusion targets: a formal financial inclusion rate of 70% of the adult population and an inclusive financial inclusion rate of 80% of the adult population. As of 2016, just 58.4% of Nigeria's 96.4 million adults were economically served and only 48.6% of all adults used proper economic services.

Financial Inclusion strategy is projected to support Central Bank's command of issuance of legal tender currency by growing the dispersion of usage of electronic payment and cash-less efforts pointing at dipping the cost of issuing legal tender currency and the cost of money management. The CBN trusts that monetary inclusion is authoritative for financial growth process because as more people are taken into the proper financial system, it will benefit in suitable planning and decision making with more consistent data. It also supports to decrease the money volume outside the finance sector. This should be useful for financial policy choices by the government and its agencies.

Some nations around the globe have used their monetary policies successfully to drive their monetary inclusion initiatives onward. For instance, banks have been authorized by the financial policy statement to have a least number of branches in semi-urban or rural areas. Mbutor and Uba (2013) correspondingly preserved that monetary inclusion is anticipated to make financial policy more operative by removing the requirement for the informal sector, which inclines to restrict the influence of monetary policy.

Statement of the Research Problem

Over the previous few years, the Central Bank of Nigeria (CBN) presented several policies intended at improving monetary inclusion in Nigeria such as, including policies around mobile payments, microfinance, electronic payments, Know Your Customer (KYC), non-interest banking, bank charges and agent banking. As early as 2005, CBN unconfined numerous policies to inspire the growth of the proper economic sector toward casually unbanked and banked clients. For example, the tiered KYC regulations (2013) stated guidelines for loan assessment, customer identification and credit verges

for low-income clients, with the determined to inspire monetary inclusion. The CBN also controlled agent-bank relationships, bank charges, microfinance and credit money bank processes, and mobile expenses with parallel thoughts in mind. Nigeria's deposit microfinance banks, money banks, mobile money workers, and innumerable of casual actors all play in the monetary services space, with offerings of heterogeneous product that persist mainly focused on credit, transfer and savings selections. Inappropriately, the strategies leading these services run in a complex ecosystem of both basic need and financial sophistication.

Adigun and Kama (2013) say that financial exclusion has established obviously in Nigeria with the bulk of the currency in the economy waiting outside the finance system. The Nigerian economy was mainly a cash-based finance with important quantity of the narrow money stock in the form of money outside the banking system, prior to the present efforts to promote monetary inclusion.

Following upon vast volume of cash outside the banking system, the Central Bank of Nigeria presented Cashless Policy. The goal was also to drive modernization and development of payment system in line with the vision of Nigeria 2020 goal of being amongst the topmost 20 economies by the year 2020.

The government and financial authorities have presented fluctuating strategies aimed at extending monetary inclusion within the economy over the years. The policies extended from numerous institutional engrossments such as the establishment of microfinance and community banks to specific programmes and policies designed to enabled mission of the monetarily excluded to proper financial facilities. On the other hand, the private banks have also been involved in activities and innovations meant at getting the involvement of more people in the process of financial inclusion, though their involvement level have always been weakened to the degree that productivity is improved.

The economy of a country may not develop overall when poor individuals are excepted and sidelined from the economic system because they are the actual support of the economy. Therefore, development in monetary inclusion should be one of the networks that can be used to make financial policy to achieve its goals; More so, when financial addition is a way of depressing loans, savings and holding of currency in the informal sector outside the monetary system.

Most researches have engrossed on the result of financial inclusion on income inequality, growth and poverty discount. The earlier studies also examined the influence of monetary inclusion on economic policy and vice versa. There are inadequate studies on the effect of money supply on monetary inclusion. To make this research more indicative and dissimilar from other preceding works, the chief goal is to degree the effect of money supply on monetary inclusion indices such as deposit of rural banks, number of bank branches, volume of loan of rural banks, credit to individuals, savings volume to Gross Domestic Product, money supply ratio to Gross Domestic Product.

OBJECTIVE OF THE STUDY

The main objective of this research is to examine the effect of money supply on pointers on financial addition in Nigeria between 1981 and 2016 with the resulting detailed objectives:

HYPOTHESES OF THE STUDY

The succeeding are the hypotheses of the research:

Ho_1: There is no important relationship between the number of bank branches and the money supply level in Nigeria during the period of study.

Ho_2: There is no important relationship between currency supply and the total number of persons with Nigeria bank accounts between 1981-2016.

Ho_3: There is no important relationship between currency supply and total number of ATM per 100,000 adults in Nigeria during the research period.

LITERATURE REVIEW

Monetary Inclusion has become interesting on the universal policy agenda but there are inadequate studies on the impactof currency supply on monetary inclusion. Nonetheless, in this segment, related economic theories studied includefinancial intermediation and finance-growth nexus.

Finance-Growth Nexus Theory

According to Aduda (2012), concepts on the finance growth nexus support that fiscal growth creates a creative situation for growth through 'demand-following' or 'supply leading' effect. The concept also observes the lack of admittance to economics as a serious factor accountable for determined inequality of income as well as gentler growth. Consequently, access to easy, safe and reasonable source of investment is documented as a pre-condition for dipping income inequalities and accelerating growth and poverty which generates equal chances, enables socially and economically excepted people to participate better into the budget and actively subsidize to development and defend themselves against financial shocks (Serrao, Sequeria and Varambally (2013).

Hypothetical differences do occur about the role of monetary systems in financial growth. Some economists see the character as trivial or insignificant while others see it as important. The mandate succeeding view is maintained contends that the financial system does not spur financial growth; rather the economic system simply responds to expansion in the real division. The supply leading supporters contrasts the earlier view. The derivation of the finance-led growth hypothesis can be drawn back to Bagehot (1873). Those who support the finance-led development hypothesis claim that the survival of an active economic sector has growth-enhancing possessions. They postulated that banks permit an economy to grow by giving effective markets for funds. Levine and Zervos (1998), and others also highlighted the optimistic role of financial systems in financial growth. The main dispute of supporters of the supply leading theory are that, monetary markets advance in response to improve danxieties for monetary services from an already growing economy. Consequently, the growth of financial markets reflects growth in other segments of the economy.

According to Levine (2004), financial development simplifies financial growth via five channels and these are; polling of savings, exerting corporate governance and monitoring firms, producing information and capital allocation, educating risk management, and enabling the exchange of goods and services. Each of these roles can also operate the investment decisions, financial savings and economic growth.

One of the significant purposes of the economic system is to support capital flows from investors to the uppermost return investment (Levine 2006). Monetary mediators and corporations have a close association, additional cost reduction of gaining data. Imperfect data may, in turn, ease exterior funding difficulties and an improved distribution of resources. Financial institutions and market encourage developments in the control of the corporation and a rapid growth of capital and encourage economic growth through improved capital allocation. An extra function of monetary institutions is to decrease the cost of obtaining data and nursing of investment schemes.

Diamond (1984) created t he model of monetary development based on dipping the cost of monitoring data, which is beneficial for resolving the difficulties on incentives between lenders and borrowers. It delivers incentives for the description of the cost of delegated administration of monetary mediators. Diversification decreases the costs even in risk impartial economy. The prototy pepresents an overall analysis of the divergen ceresult on solving difficulties and expected debt contracts in expensive bankruptcy are revealed to be ideal. Financial development permits better agreements to be used and allow Pareto superior distribution.

Greenwood and Smith (1997) examined that monetary intermediation and economic growth are endogenously determined. Financial intermediation encourages economic growth because it offers a higher rate of equity return on, and in turn it assigns resources. Their model examined that the capital may be advanced for getting a high-yield technology or low-yield technology. Low yield technology is harmless and get low return rate, but the high-yield technology is risky, and depositors get the high return rate. There are two terms for the high return rate on risky technology such as collective shock and project shock. Unlike their large collections of distinct investors by monetary mediators can effortlessly decode the combined productivity shock and consequently, to choose the best expertise for the present insight of the shock. Consequently, savings, financial intermediaries and productivity through more effective distribution of capital lead to better economic growth.

Financial Intermediation Theory

Nwite (2014) specified that monetary intermediaries through the process of monetary intermediation assemble deposits from savers and allocate credit facilities to borrowers for savings that will lead to financial development. By using ordinary least square estimate, he inspected the effect of financial intermediation on financial development in Nigeria. This research determined that there was long run association between credit to private sector, interest rate margin, lending rate and financial growth in Nigeria. The research found that from 2004 to 2007, the period noted the highest average annual growth rate in loan payment to the private sector, yet the same period noted the poorest average annual growth rate in the manufacturing volume utilization rate. The research decided that there was important and positive effect of monetary intermediation on financial development in Nigeria. He suggested that Nigerian government must confirm that a module study of the real division of the Nigerian economy be carried out with a opinion to having a better comprehension of the reverse relationship between the credits to the private sector and the act of Nigerian economy through monetary intermediation. He also counselled Central Bank of Nigeria to check mate banks from owning additional liquidity that would warrant the anticipation of inflation in the economy and that there must be a governing frame work that will permit the monetary institutions to channel their properties to the most viable sector of the economy to raise the economic development level.

Andrew and Osuji (2013) explain that monetary intermediation contains the conversion of mobilized deposits accountabilities by banks into banks credits or assets such as overdraft and loans. This means that monetary intermediation is the method of getting money from investors and giving same to debtors for savings which in turn help the economy to raise. Effective financial intermediation leads to high level of generation of employment and revenue which habitually improves the economic development level.

Basher (2013) preached that monetary intermediation plays a very important role in financial development in Nigeria. For economic intermediation to support development, there should be an effective monetary system. This means that monetary intermediation alleviates the expenses related with data attainment and the conduct of monetary dealings

through the lending rate level and acclaim to private sector in rushing development in an economy. Basher (2013) inspected the association between financial sector development, open markets and economic growth to know if markets along with monetary sector development disturb economic development in Nigeria. The research made use of Johansen cointegration test, Granger causality test and vector error correction model. It was observed that the connection between financial sector development, open markets and growth in Nigeria is insignificant and weak, and such cannot be used to estimate financial growth in Nigeria.

Thus, to be precise, according to the current theory of financial intermediation, monetary mediators are active because market inadequacies avoid investors and savers from trading directly with each other in an optimum way. The most significant market limitations are the Informational asymmetries between investors and savers. Fiscal intermediaries, specifically banks, fill –as delegated monitors and as agents– data gaps between ultimate investors and savers. This is because they have a relative informational benefit over ultimate investors and savers. They monitor and screen investors on behalf of investors. This is their fundamental function, which validates the contract costs they charge to gatherings. They also bond the maturity mismatch between investors and savers and simplify payments between fiscal parties by providing a settlement, payment and clearing system. Subsequently, they involve in qualitative asset alteration events. To warrant the sustainability of monetary intermediation, protection and reliability regulation must be put in place. Regulation also offers the foundation for the intermediaries to endorse in the monetary services production. All researches on the details behind monetary intermediation concentration the operation of intermediaries in the intermediation procedure; they do not inspect the presence of the real-world mediators as such. It seems that the later issue is observed to be dealt with when acceptable responses on the past are being provided. Market optimization is the major point of orientation in case of the working of the intermediaries.

A significant query that the theory tries to respond is why do depositors first lend to banks who then lend to debtors, instead of loaning directly? Advices point out to the statistic that banks can efficiently monitor debtors and thus play the role of vicarious monitoring.

Financial Inclusion and Financial Deepening

Financial inclusion is a portion of that larger comprehensive agenda. Growth does not work in storage tower. So, one should not overlook the noticeable point that monetary inclusion cannot be determined independent of the other substances on that inclusive agenda. Maple croft has universal financial inclusion index that ranks 119 nations based on admittance by populaces to credit, banking services and insurance. India ranks 81st on this (the more the better) and that does not appear to be that corrupt. But that is fundamentally because Maple croft pointers are too macro. They do not quantify differences within a nation. Here are some sobering facts, all from Reserve Bank of India sources:40 per cent of the population has bank accounts and there are spatial variances in admission; 30,000 out of India’s 600,000 inhabitations have planned commercial bank branches. There is also the associated point about whether these bank accounts are simply idea, prevailing on paper essentially. Non-life insurance cover is less than 1 per cent and life insurance cover is around 10 per cent. Debit cards are limited to 13 per cent of the populace and credit cards to 2 per cent. Great numbers of agriculturalists do not have admittance to credit. If they do, they do not have admittance to proper credit from official foundations. If they have admission to credit, they do not have insurance access, and the two frequently go together in the country sector. More such numbers can be replicated, but they aren’t awfully stimulating.

Financial deepening (measured by some pointers) was deliberately prohibited, because in an interfering mode (insurance nationalization and recall bank, regional rural banks, NABARD, cooperative banks) by the State, it was supposed that this would thrust monetary inclusion. It has not fairly worked that way and even if financial inclusion has enhanced, it has not enhanced to the chosen degree.

Central Bank of Nigeria (2012) explained financial deepening as a term used to mention to growing provision of financial facilities. It refers to both better access for different socioeconomic groups and wider choice of services. In the meantime, financial inclusion is characteristically well-defined as the number of individuals and firms that use monetary services. It is the method of safeguarding access to suitable financial services and products required by susceptible groups such as low-income groups and weaker sections at an inexpensive cost in a transparent and fair manner by typical Institutional players.

Financial deepening and financial inclusion are different, and the two terms must not be used synonymously. Apart from everything else, the strategy suggestions are different. There is both empirical and theoretical work creating correlation between economic growth and financial development. The causation direction is debated at best. Instead of financial development, why do we then use an appearance like financial deepening? Apart from everything else, the former is a bit more specific than the latter. It is obvious the term "financial deepening" became prevalent after Edward Shaw's groundbreaking 1973 work, titled, "Financial Deepening in Economic Development". Unexpectedly, also in 1973, Ronald McKinnon's groundbreaking work, titled, "Money and Capital in Economic Development" was published and McKinnon and Shaw go together. The core McKinnon-Shaw theory is simple. Through government policies like capital flows, controls on interest rates, public ownership of financial institutions, entry limitations in the financial sector, authorized credit sharing and so on, there can be "financial repression" in developing nations and these oblige financial institutions from executing the intermediate function well and capital is not efficiently allocated. Ipso facto, we use a term like "financial deepening" because it seizes variations in the financial system.

With reforms and liberalization, the importance of financial sectoring the economy upsurges, taken by standard credit indicators or macro money as shares of GDP. We thus have an association between GDP growth and liberalization. We also have a correlation between GDP growth and financial deepening, with more and more monetary services being presented.

Since 1991, financial reforms have been presented in India, with some former reforms seeing back to the late-1970s. There can be no refuting that improvements have stepped up the growth of GDP, first in the 1990s and then again since 2003, before the universal monetary crisis led to a stoppage. The arguable query is whether this development has been broad-based enough, the so-called inclusive growth agenda. The divides and disparities can be understood in numerous ways - spatial in a urban/rural sense, sectoral as in spatial across states, agriculture versus industry/ services, spatial within states, across caste/ gender/religion/ civilization and at the level of personal revenue (more accurately expenditure) deliveries.

CBN (2011) explains that the trickle-down aids of growth have permeated to every section. It is just that the percolation has not been even, and this increases political economy queries, since outlooks about assistances of advanced growth permeate ubiquitously. There is also a variance between relative sense of deficiency (as in measures of inequality) and absolute gains and there is also an alteration between actual changes in perceptions and inequality. Generally, there are two public policy queries. First, is the permitting growth environment similar for every section? Are communal goods

(electricity, roads, water, health-care, education, law and order) parallel in terms of access? If not, how does one advance this? Does it have to be communal spending? If it must be public disbursement, rather than isolated provisioning, how can it be made more effective? Second, what direct anti-poverty programmes are required for those (such as external working-age groups) who cannot benefit of the market-based chances that are thrown up.

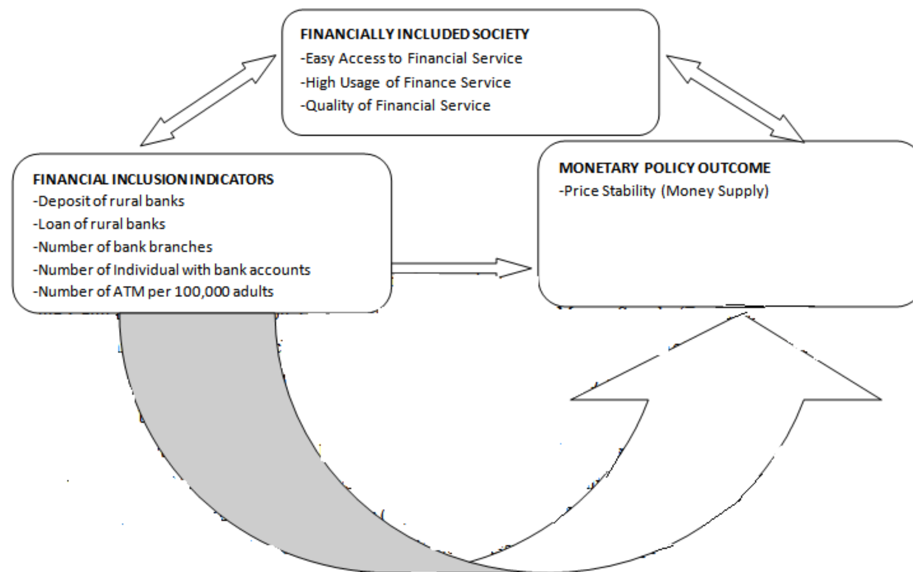

Figure 1: Linkages between Financial Inclusion and Money Supply

Source: Adapted from Onaolapo 2015

METHODOLOGY

The research mainly used secondary data from various sources. Information were collected from the Central Bank of Nigeria, on The Annual Time Series data on Money Supply (Broad and Narrow Money), and on monetary inclusion proxied with total loans of rural banks, total deposit of rural banks, number of Automated Teller Machines (ATM) per 100,000 adults and total number of commercial bank branches.

In measuring the connection between financial inclusion and money supply, Cointegration and Error Correction Model were used. A two-step method to testing for cointegration or causality between Money Supply (MS) and Financial Inclusion (FI) was followed. The first step necessitates a purpose of the time series assets of each variable based on unit root assessments. This was proficient by performing the augmented Dickey-Fuller (ADF) test. With the inclusion of a constant, the ADF test was founded on the regression equation.

For this research, MS signifies the index of Money Supply and FI signifies the index of Financial Inclusion with the succeeding variables:

FI_1 = Deposit of Rural Banks $=X_1$; FI_2= Loan of Rural Banks= X_2; FI_3 = Number of Bank Branches= X_3;

FI_4= Number Individuals with bank accounts= X_4 ; FI_5= Number of ATMs per 100,000 adults= X_5

The below model was stated to analyze the relationship between Financial inclusion and Money supply.

$Ms= f(X_1, X_2, X_3, X_4, X_5, u)$

RESULTS

The effect of econometric model projected to measure the relationship between financial inclusion and money supply indicators were presented below:

Table 1: Ordinary Least Square Result- Relationship between Financial Inclusion and Money Supply

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X1)-Deposit	-0.013141	0.008369	-1.5702	0.1276
D(X2)-Loans	0.011587	0.002491	4.6507**	0.0001
D(X3)-Branches	0.260280	0.150130	1.7337*	0.0940
D(X4)-Individuals	0.383818	0.086696	4.4271**	0.0001
D(X5)-ATM	0.537560	0.149105	3.6052**	0.0012
R-squared	0.618873	Mean dependent var		0.211027
Adjusted R-squared	0.550815	S.D. dependent var		0.110812
S.E. of regression	0.074268	Akaike info criterion		-2.203501
Sum squared resid	0.154439	Schwarz criterion		-1.934143
Log likelihood	43.45951	Hannan-Quinn criter.		-2.111642
Durbin-Watson stat	1.220396			

T Statistical Values at 5%= 2.1; at 10%= 1.7
Source: **Author's Computation**

Table 1displays that within the research period, financial inclusion indicators such as number of bank branches, total loan of rural banks, number of individuals with bank accounts and number of ATMs/100,000 adults show important positive connection with money supply. The ideals of the coefficient of Durbin Watson Statistics and multiple determination (55%) were within the adequate range. With this outcome, the null hypotheses ($H0_1 H0_2, H0_3$) were all excluded. This suggests there were important relationships between financial inclusion and money supply indices during the research period.

The Cointegration Results

The outcome of the Unit test is displayed in Table 2

Table 2: Unit Root Tests

Variable	Augmented Dickey-Fuller (ADF)		Phillip Perron (PP)		Decision
	Level	First Difference	Level	First Difference	
MS	-3.0304**	-7.9819*	-2.9894**	-8.3407*	I(0)
X1	0.0214	-3.0346*	0.0909	-3.0346*	I(1)
X2	2.5985	-1.5319	-4.5351*	-8.3744*	I(0)
X3	-0.1380	-4.4021*	-0.2296	-4.4234*	I(1)
X4	3.2662	-1.5096	4.4814	0.0641**	I(1)
X5	-0.8096	-5.1961*	-0.9087	-5.2763*	I(1)
X6	-2.2072	-6.2556*	-2.2269	-7.0734*	I(1)
Y	-3.2458**	-0.2253	6.8475	-1.2172	I(0)

Source: Authors' Computation; Note: *, ** and * Imply Statistical Significance at 1%, 5% and 10% Levels Respectively.**

The above Phillips-Perron (PP) and Augmented Dickey-Fuller (ADF) were led to avoid the issues of false outcomes which are associated with non-stationary time series. The tests were measured suitable as a former diagnostic test before the assessment of models. The variables were united of order 0 and 1.

Table 3: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.833346	168.0622	125.6154	0.0000
At most 1 *	0.679552	108.9316	95.75366	0.0045
At most 2 *	0.494180	71.37644	69.81889	0.0374
At most 3 *	0.443416	48.88449	47.85613	0.0399
At most 4	0.332056	29.54855	29.79707	0.0534
At most 5 *	0.224965	16.23137	15.49471	0.0387
Trace test specifies 4 cointegrating eqn(s) at the 0.05 level				
* denotes hypothesis rejection at the 0.05 level				
Trend assumption: Linear deterministic trend **Source**: **Authors'Computation**				

Table 4: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.833346	59.13065	46.23142	0.0013
At most 1	0.679552	37.55513	40.07757	0.0937
At most 2	0.494180	22.49196	33.87687	0.5696
At most 3	0.443416	19.33594	27.58434	0.3890
At most 4	0.332056	13.31718	21.13162	0.4235
At most 5	0.224965	8.409962	14.26460	0.3386
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: **Authors'Computation**

The time series belongings of money supply and financial inclusion indicators are signified in graphical forms. From Figure 2, displays the time series properties of the pointers of monetary inclusion, the coefficient of determination (R^2) of Money Supply/GDP was 0.65%; for the number of branches of bank, the R^2 was 0.87% and that of Credit to Individuals was 0.62%.

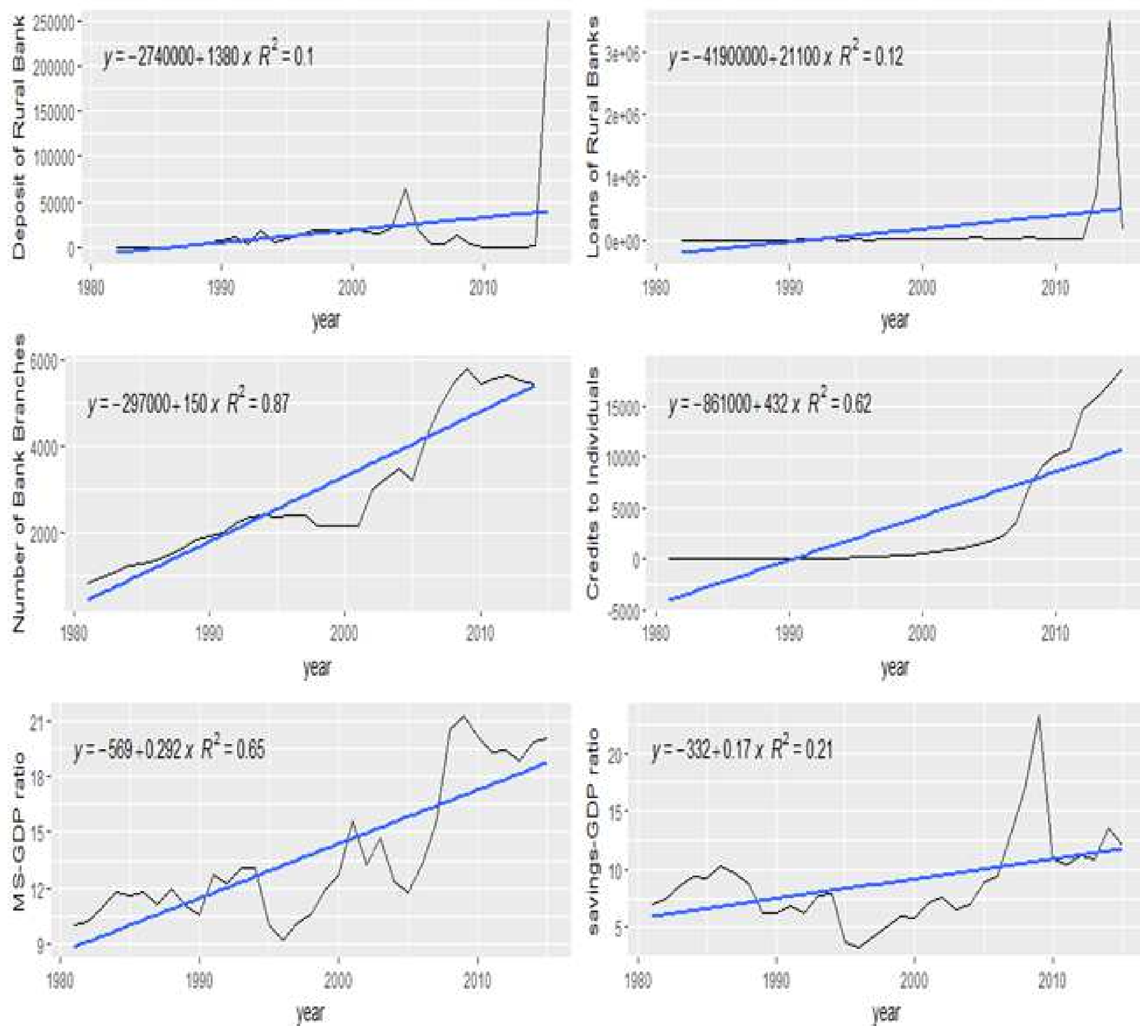

Figure 2: Indicators of Financial Inclusion

CONCLUSIONS

This paper studied the relationship between financial inclusion and money supply in Nigeria between 1981 and 2016. Results exposed that important relationships existed between financial inclusion and money supply indices.

Based on the result of this research, we hereby acclaim that Central Bank of Nigeria (CBN) should implement financial policies that will generate a constructive investment climate through market-based interest rate that will increase savings and positively create an impact on money supply. The apex bank wants to present more policies towards enhancing financial inclusion in Nigeria as well as policies supporting the growth and stability of the financial sector.

REFERENCES

1. *Adigun, M., and Kama, U.(2013). "Financial Inclusion in Nigeria: Issues and Challenges, An*
2. *Occasional Paper No 45 Central Bank of Nigeria.*
3. *Aduda J. Kalunda E (2012) "Financial Inclusion and Financial Sector Stability With Reference*
4. *to Kenya" Journal of Applied Finance & Banking, vol. 2, no. 6, 2012, 95-120 ISSN: 1792-6580 (print version), 1792-6599 (online) Scienpress.*

5. *Aina, S., and Oluyombo, O. (2014).“The Economy of Financial Inclusion in Nigeria: Theory,*
6. *Practice and Policy”. Proshare Publishers pp10-30.*
7. *Ajayi, S.I., and Ojo, O.O. (2006). “Money and Banking, Analysis and Policy in the Nigerian*
8. *Context”, Second Edition Published by Daily Graphics Nigeria Limited 249-315.*
9. *Andrew, O.A. and Osuji, C. C. (2013). “An Empirical Analysis of Trends in Financial*
10. *Intermediation and Output in Nigeria”. Global Journals Inc.(USA), 13(9): 210-216.*
11. *Bagehot, W, (1873). “Lombard Street: A Description of the Money Market. Homewood”,*
12. *IL: Richard D. Irwin (1962 Edition)*
13. *Basher, O. K. (2013), Open Market, Financial Sector Development and Economic Growth in*
14. *Nigeria. European Scientific Journal. 8(28): 80-85.*
15. *Bilbiie, F (2008): “Limited asset markets participation, monetary policy and (inverted)*
16. *aggregate demand logic,” Journal of Economic Theory 140(1), 162–196.*
17. *Central Bank of Nigeria (2003) Know Your Customer Manual for Banks and Other Financial*
18. *Institutions in Nigeria. Available from http://www.cenbank.org/OUT/PUBLICATIONS/BSD/2003/KYCM.PDF. Central Bank of Nigeria (2018): Exposure Draft of the National Financial Inclusion Strategy Refresh. Doc Ref: DFD/FIS/GEN/ODB/08/035, www.cbn.gov.ng.*
19. *Central Bank of Nigeria (2017) Statistical Bulletin-Central Bank of Nigeria from*
20. *https://www.cbn.gov.ng/.../.../2017/.../ecopy%20of%202016%20statistical%20bulletin_fi*
21. *Central Bank of Nigeria (2010). Standards and Guidelines on Automated Teller Machine (ATM)*
22. *Operations in Nigeria. Available from: http://www.cenbank.org/out/2010/circulars/bspd/atm%20standards%201.pdf.Central Bank of Nigeria (2011). Understanding Monetary Policy.Series No1. What is Monetary Policy 2011. CBN/MPD/Series/01/2011. www.cbn.org.*
23. *Central Bank of Nigeria (2011). Revised Microfinance Policy Framework for Nigeria.*
24. *Available from: http://www.cenbank.org/Out/2011/pressrelease/gvd/Revised%20Microfinance Policy July 2012.pdf.*
25. *Central Bank of Nigeria (2009). Microfinance Policy Framework, Available from:*
26. *http://www.cenbank.org/out/Publications/guidelines/dfd/2006/microfinance%20policy.pd*
27. *Central Bank of Nigeria (2008). Central Bank of Nigeria (CBN), Monetary Policy Department*
28. *Series 1,2008.CBN/MPD/Series/01/2008. www.cbn.orgCentral Bank of Nigeria Regulatory Framework for Mobile Payments Services in Nigeria. Available from: http://www.cenbank.org/OUT/CIRCULARS/BOD/2009/REGULATORY%20FRAMEWORK%20%20FOR%20MOBILE%20PAYMENTS%20SERVICES%20IN%20NIGERIA.PDF*

29. *Central Bank of Nigeria. FSS 2020 Blueprint for Nigeria's financial system, Financial*
30. *Derivatives Company. Available from: http://www.cgap.org/gm/document 1.1.1703/Nigeria%20-FSS%202020.pdf.*
31. *CGAP (2009) Information Systems for Micro Finance Institutions. Available from:*
32. *www.cgap.org/gm/document1.9.34358/CGAP%20Information%20Systems%20Course.*
33. *CGAP (2009) MIV SURVEY Available from: http://www.cgap.org/gm/document- 1.9.37549/*
34. *CGAP%20MIV%20Survey%20-%20Results%20Presentation.pdfNCGAP(2012). Financial Inclusion and Stability: What Does Research Show? Retrieved fromhttp://www.cgap.org/sites/default/files/CGAPBrief-Financial-Inclusion-and-Stability-What-Does-Research-ShowMay-2012.pdf.*
35. *CGAP and World Bank (2010).“Financial Access 2010: The State of Financial Inclusion*
36. *Through the Crisis”. Washington, DC: World Bank.*
37. *Demirguc-Kunt, A and L Klapper (2012): “Measuring financial inclusion: The Global Findex*
38. *database,” World Bank Policy Research Working Paper Series no 6025.*
39. *Demirgüç-Kunt,A; Thorsten B, Patrick., (2012).“Policies and Pitfalls in Expanding Access*
40. *Washington, DC”: World Bank wp 0604.*
41. *Diamond, D. W, (1984). “Financial Intermediation and Delegated Monitoring”, Review of*
42. *Economic Studies 51, pp.393-414.*
43. *Di Bartolomeo, G and L Rossi (2007): “Effectiveness of monetary policy and limited asset*
44. *market participation: Neoclassical versus Keynesian effects,” International Journal of Economic Theory 3(3), 213–218.*
45. *EFInA (2008 & 2010).Access to Financial services in Nigeria. Available from*
46. *www.efina.org.ng/assets/Documents/EFInAAccess-to-Financial-Services-in Nigeria 2010 surveyKey Findings.pdf?phpMyAdmin=%2CWvBxPNpx0z2BcKe8h2UcHJI%2CXb.*
47. *Galí, J, J López-Salido and Vallés, J (2004): “Rule-of-thumb consumers and the design of*
48. *interest rate rules,” Journal of Money, Credit and Banking 36(4), 739–763.*
49. *Greenwood, J. and Smith, B, (1997). “Financial Markets in Development, and the Development*
50. *of Financial Markets”, Journal of Economic Dynamics and Control 21, pp. 145-181.*
51. *King, R. G. and Levine, R, (1998). “Finance and Growth: Schumpeter Might be Right”,*
52. *Quarterly Journal of Economics (108:3), pp. 717-737.*
53. *Laeven, L. and Levine, R, (2008). “Complex Ownership Structures and Corporate Valuations”,*

54. *Review of Financial Studies 21, pp.579-604.*
55. *Lapukeni A.F; (2015) "The Impact of Financial Inclusion on Monetary Policy Effectiveness:*
56. *The case of Malawi" International Journal of Monetary Economics and Finance, Vol. 8, No. 4.*
57. *Levine, Ross, (2006). "Finance and Growth: Theory and Evidence in Handbook of Economic*
58. *Growth", Eds: Philippe Aghion and Steven Durlauf, New York: Elsevier North-Holland, pp. 865-934.*
59. *Levine, Ross, (2004). "Finance and Growth: Theory and Evidence", National Bureau of*
60. *Economic Research (NBER), WP 10766.*
61. *Levine, R. and S. Zervos, (1998). "Stock Markets, Banks, and Economic Growth", American*
62. *Economic Review (88:3), pp. 537-558.*
63. *Mbutor, M. O. and Uba, I. A. (2013)."The Impact of Financial Inclusion on Monetary policy*
64. *in Nigeria". Journal of Economic and International Finance. Vol. 5 (8). Pp. 318-326.*
65. *Mehrotra, A and J Yetman (2014): "Financial inclusion and optimal monetary policy," BIS*
66. *Working Papers No 476.*
67. *Nwite, S.C. (2014). "Determinants Of Financial Intermediation And Its Implications On*
68. *Economic Growth In Nigeria" British Journal of Marketing Studies Vol.3, No.9, pp.49-56, December 2014.*
69. *Onaolapo A.R (2015) "Effects of Financial Inclusion on the Economic Growth of Nigeria*
70. *(1982-2012)" International Journal of Business and Management Review Vol.3, No.8, pp.11-28.*
71. *Serrao, M. V., Sequeira, A. Hmoo and Varambally, K. V. M. (2013)."Conceptual Framework*
72. *to investigate the Accessibility and Impact of Financial Inclusion". Indian Journal of Research. Vol. 2 (9). Pp. 47-49*
73. *Taylor, J (1999): "A historical analysis of monetary policy rules," in Monetary policy rules (J*
74. *Taylor, ed), University of Chicago Press, 319-348.*
75. *Usman, O.A and Adejare, A.T (2014) "Money Supply, Foreign Exchange Regimes And*
76. *Economic Growth In Nigeria" Journal of Finance and Accounting Vol.5, No.8, ISSN 2222-1697*
77. *Usman, O.A and Adejare, A.T (2014)" Impact of Monetary Policy on Industrial Growth in*
78. *Nigeria" International Journal of Academic Research in Business and Social Sciences Vol. 4, No. 1 ISSN: 2222-6990 18 www.hrmars.com/journals.*
79. *Yetman (2017), "Adapting monetary policy to increasing financial inclusion" Bank for*
80. *International Settlements, Seminar at the ISI World Statistics Congress on "Financial Inclusion" Bank of Morocco – CEMLA – IFC Satellite Marrakech, Morocco, July 14, 2017*