

# Financial Inclusion and Economic Growth in Nigeria

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DOI: <https://dx.doi.org/10.47772/IJRISS.2025.908000353>

Received: 05 August 2025; Accepted: 11 August 2025; Published: 11 September 2025

## ABSTRACT

This study used data collected between 1989 and 2022 to draw conclusions on how financial inclusion affected GDP growth in Nigeria. This meant that GDP growth rate was used to measure economic expansion, and that money supply, ATM numbers, bank branches in rural areas, commercial bank loans to borrowers in rural areas, and the labor force were used to measure financial inclusion. The study included labor force participation and gross fixed capital formation as control variables. A causality approach and an ARDL model were used in the analysis. As a result, it was proven that financial inclusion little affects GDP growth, whereas the labor force and money supply drive economic expansion. Consequently, it is advised that the government should support the Central Bank of Nigeria in creating a conducive climate for interest rates, so encouraging prospective investors in rural regions to seek loans. The Central Bank of Nigeria should mandate commercial banks to provide increased credit facilities to rural investors without requiring collateral, thereby encouraging investment in viable projects and positively impacting the economy, as money supply is a catalyst for economic growth.

**Keywords:** Financial Inclusion, Financial Intermediation, Rural Development, Economic Growth

## INTRODUCTION

The term "economic growth" is used to describe the increase in the market value of a country's produced goods and services during a specific time period, adjusted for inflation. The standard way to measure it is as a percentage of the increase in real GDP. An economy is said to have grown if, measured over different time periods, its productive capacity to provide goods and services has increased. The expansion of a country's productive capacity, which allows for the production of more goods and services, is the key ingredient for economic growth (Chen, et. al., 2018).

Economic growth and development are anticipated to be boosted by the standard of financial inclusion, which aims to provide access to capital for investment and economic activity in areas where these resources are currently unavailable. A large amount of cheap, long-term investable cash can be obtained by making use of and collecting these resources (Kama, et.al., 2013). It comprises incorporating the unofficial financial sector into official operations. A considerable portion of the economy's idle funds are controlled by low- and middle-income earners because they make up the greatest sector of the population. However, these monies are spread in modest amounts across millions of individuals. Therefore, a solid basis for cheap long-term investable capital can be laid by pooling and mobilizing these resources. It is detrimental to society and people alike because many economies that have not effectively implemented financial inclusion are mainly structured to allow for substantial capital flow inside the informal sector (Kazeem, 2017). A key but daunting objective in Emerging Markets (EMs) and an essential component of financial development, financial inclusion is defined by Akhil (2016) as the affordable provision of financial services to the poor. El-Said, Emara, et. al. (2020) argued that financial inclusion comprises the availability and use of financial products and services by households and businesses. There is a close relationship between financial inclusion, development, and increased economic growth. To achieve the sustainable development goals (SDGs) and fight poverty and inequality, financial inclusion (FI) is seen as an essential tactic within the framework of inclusive development. Financial inclusion is essential for any nation's economic development, including Nigeria, according to Abbas, et. al. (2019). This is because more people using the formal financial system means better policymakers can

plan and make decisions. The inability of rural residents to gain access to and make use of financial services is a major factor contributing to the ineffectiveness of the federal government's financial inclusion program in Nigeria. The following are the main reasons why 106 million people in the target demographic of adults (18+) do not have access to financial services, according to the 2020 EFInA study: The inconsistency of income prevented 31% of respondents from using financial services, while 27% said that banks were too far away from their homes or places of employment. Unemployment also caused financial exclusion for 21% of the population. A small percentage of the population cannot read or write. Interest on deposits was seen inadequate by 3% of respondents, while interest on loans was deemed excessive by the same percentage. Among Nigerian adults, 64% had bank accounts in 2020, while 36%, or 38 million people, did not (EFInA, 2020). So, this research provides data that supports the claim that financial inclusion has a positive effect on GDP development in Nigeria.

## LITERATURE REVIEW

### Financial Inclusion in Nigeria: An Overview

Giving low-income people access to cheap financial services is what financial inclusion is all about, according to Akhil (2016). Economic growth and development, according to Abbas, et. al. (2019), depend on financial inclusion since it allows decision-makers to plan and formulate policies more easily when a bigger portion of the population is part of the formal financial system. This suggests that financial exclusion can influence long-term economic growth and development by reducing the usefulness of financial services in policymaking and planning. A key tool for combating economic inequality, reducing poverty, and preserving social cohesiveness is the rate of financial inclusion. Ahmed made this claim in 2020. Important for reducing economic disparity and poverty, it helps underprivileged people have access to opportunities for growth (Omar, et. al., 2020). Financial institutions in Nigeria are being pushed to reach out to rural areas through an ambitious five-year plan (2019–2024) set out by the country's central bank. The goal is to reach 95% financial inclusion by 2024. But despite this trend, most of Nigeria's economically excluded individuals live in rural areas. Therefore, in order for Nigeria to achieve financial inclusion, officials and key players in the banking industry need to come up with fresh approaches and put concrete plans into motion to overcome the challenges faced by rural areas while trying to gain access to financial services. The Nigerian economy relied heavily on cash before the country's staunch promotion of financial inclusion, with non-banking currency making up a large portion of the limited money supply. The average share of narrow money supply (M1) and cash outside the banking sector (COBs) decreased from 61% in 1960 to 44.3% in 1970, and further to 40.9% in 1980. Notwithstanding this decrease, the value remained elevated, alongside a rise in the economy's narrow money supply. Certain causes contributed to its decline, including government measures aimed at enhancing the growth of the financial industry and improving literacy levels. During this period, the Central Bank of Nigeria initiated the Rural Banking Programme, aimed at promoting the utilization of financial products and services by establishing bank branches in rural areas. Central Bank of Nigeria, National Financial Inclusion Strategy (NFIS 2012). Between 1970 and 1980, over 300 banks were founded in rural areas, and from 1988 to 1994, N300 million was allocated to small and medium-sized enterprises, leading to an increased borrowing rate. The initial scheme in the rural region was executed in two phases, from 1977 to 1983. During the initial phase of the program from 1977 to 1980, out of the aim of 200 rural branches, the banks established five by the end of December 1977. The quantity of rural branches inaugurated during phase one rose to 188 by the conclusion of June 1980 and reached 194 by the end of December 1980.

At the conclusion of June 1980, outstanding deposits were N116.4 million, while total loans and advances for the rural branches reached N22.4 million throughout the second phase from 1980 to 1983. The number of branches established during phase two, which was 121 at the conclusion of June 1981, rose to 181 by the end of December 1983. The total attained in the second phase is merely 68.0% in comparison to the 94.0% achieved in the first stage. The deficiency of infrastructure facilities and insufficient human financial resources led to the subpar performance in the second phase. The rural project was implemented in three parts from 1982 to 1987. By the conclusion of December 1987, 200 rural branches had been established from the 200 designated in the first phase. In the second phase, 257 branches were established out of 266 allotted, leaving 9 branches remaining. In the third phase, 72 branches were established from 300 allocated, with 228 branches still pending establishment. In the years 1982, 1983, and 1984, rural bank credit disbursements were 29.47%,

43.6%, and 58.1%, respectively, falling short of the statutory minimum requirement of 30%. Credit disbursements were 335 and 42% separately against the 40% statutory objective in 1985 and 1986. The rural areas were found to possess sufficient bank credits. In the years 1982, 1983, 1984, 1985, and 1986, rural bank deposits constituted 0.93%, 3.05%, 1.75%, 11%, and 43.06% respectively of total commercial bank deposits' liabilities. The Peoples Bank of Nigeria (PBN) and other community banks were created by the Federal Government to cultivate banking practices and promote a culture of savings. Both initiatives were aimed at rural inhabitants and low-income individuals, offering microcredits and accepting tiny deposits. The Federal Government mostly financed the loans through the Central Bank of Nigeria and received grants from philanthropic groups. The primary focus of the banks was on minor borrowers unable to satisfy the stringent credit requirements of commercial banks. They provided assistance by fulfilling their credit needs. A large part of Nigeria's economic output is not linked to the banking system, making the country a prime example of financial exclusion. Consequently, throughout the last 40 years, numerous governments have recognized financial exclusion as a pressing economic concern. Much of Nigeria's limited money supply existed as currency outside of the banking system, and the country's economy remained largely cash-based until recent attempts to encourage financial inclusion.

Despite a decline from 61.1% in the 1960s to 44.3% in the 1970s and then to 40.9% in the 1980s, the average ratio of currency outside the banking sector (COBs) to the narrow money supply (M) steadily rose, keeping the nominal value elevated when taking into account the increase in narrow money within the economy. Several reasons contributed to the reduction in the proportion, such as higher literacy rates and government initiatives to encourage the expansion of the financial industry. With the rural banking program and the authority to open branches in specific areas, the Central Bank of Nigeria (CBN) sought to increase the use of financial institutions and goods by the people of Nigeria. The crisis that hit the banking sector in the 90s really tarnished its reputation. Excessive spending by the political elite compounded the problem by putting more money outside of the banking system. There was 47.7 percent of the money that wasn't in a bank by the end of the 1990s. In response to the problems caused by the banking industry's instability in the 1990s, the government established a number of initiatives to help those affected. Among the steps that bolstered the financial sector was the 2004 bank consolidation program, but the policies also included economic shifts to increase the general well-being of the populace in terms of employment and income potential. Because more people were using financial services, the percentage of money not in circulation dropped to 38.2% at the end of 2005. Using a constant metric of the ratio of non-banking currency to the money supply (1960–2005), Oluba (2008) analyzed the extent to which Switzerland, the US, Venezuela, Nigeria, Pakistan, India, and Argentina were financially excluded over a 45-year period. Despite the need to reduce the exclusion rate as soon as possible, he concluded that Nigeria's performance was not significantly worse than the others. A major effort in this area, the Nigerian Financial System Strategy 2020 (FSS 2020) set financial inclusion as a primary goal in 2020. To ensure that Nigeria's financial sector becomes a growth accelerator and propels the country to rank among the world's 20 largest economies by 2020, a comprehensive strategic framework called the FSS 2020 has been developed. The Financial System Strategy (FSS2020) acknowledged six players in the banking industry. They were suppliers in the financial inclusion value chain, providing financial services. The group includes banking institutions, non-bank financial entities, insurance companies, pension organizations, technology suppliers, stock market participants, and regulatory agencies, all of whom are crucial stakeholders in financial inclusion.

## **Theoretical Literature**

### **Financial Intermediation Theory**

The extent to which companies link deficit spending units with surplus spending units is called financial intermediation, according to Ndebbio (2004). One important question that these theories try to answer is why, instead of just lending money, investors first lend it to banks, and then those banks lend it to borrowers. As pointed out by Diamond (1984), there is evidence to imply that banks are capable of effectively overseeing borrowers, thereby fulfilling the role of delegated monitoring. This comparative advantage is aided by the reduced monitoring costs. A common argument against intermediaries is that they facilitate the acquisition of primary financial assets through the issuance of secondary financial assets. If an intermediary didn't provide any value, then buyers of the intermediary's secondary securities might just buy the main securities themselves,

cutting off the middleman and their fees. Diamond from 1984. Frustration in the financial markets, caused by information asymmetry and transaction costs, may be the main cause of income inequality and poverty traps. These factors greatly impact choices about physical and human capital, as well as about jobs and saving. According to Demigue-Kunt, et. al. (2008), the extent to which the poor are able to obtain loans in order to invest in human or physical capital is determined by inefficiencies in financial markets under models that prioritize capital accumulation. According to theories of entrepreneurship, the ability of bright but financially disadvantaged people to launch their ideas through external financing is limited by financial market imperfections. Finance impacts both the efficiency of resource allocation across the economy and the comparative economic opportunities of individuals from affluent or impoverished households, according to Demigue-Kunt, et. al. (2008). This suggested that financial development, growth, and intergenerational income dynamics are highly interdependent.

Market fictions are being eroded by financial inclusion. Because most parties cannot access the information needed to make informed decisions, market inefficiency occurs when one party has access to more organized and superior information. This phenomenon is known as information asymmetry. Problems like information monopoly, adverse selection, and moral hazard fall under this category. The uninformed party in a moral hazard scenario does not have better information than the informed party in an adverse selection model, but in a transaction contract discussion, the uninformed party does not have any information at all. Financial inclusion has the inverse impact of high transaction costs, which leads to higher product pricing and ultimately financial exclusion.

Therefore, theoretical models imply that reducing financial market faults to increase individual possibilities has positive incentive effects. Diamond from 1984. Positive incentive effects are generated when financial market inefficiencies are reduced to improve individual chances, according to Demirgüç-Kunt, et. al. (2008). Persistent income disparity, poverty traps, and reduced growth can be exacerbated by inadequate access to financing, as their models shown. Financial intermediaries are entrusted with five primary functions according to the aforementioned theoretical models: minimizing risk, gathering borrower information, improving corporate governance, capital accumulation, and transaction process facilitation. The effects of development and growth and the concept of causation are central to the debates. Financial inclusion has investigated questions about promoting substantial financial growth, but there are also concerns about the possible negative consequences of financial deepening, which could cause instability in the financial sector. Therefore, it is necessary to conduct research to establish relationships and directions.

Data-Based Studies such as Siddiki, et. al. (2024) used a dataset covering 153 nations from 2011 to 2020 to look at how financial inclusion correlated with economic growth. Financial inclusion was measured by the number of people who had bank accounts, while economic growth was evaluated by the gross domestic product per capita. The study data was analyzed using the threshold regression approach. Financial inclusion and GDP growth are positively correlated, according to the study. Between 1981 and 2022, Atta, et. al. (2024) looked at how financial inclusion affected economic development in Nigeria. They used GDP as a measure of economic growth and financial inclusion as a measure of money supply, loan-to-deposit ratio of banks, savings ratio with commercial banks, and credit to the private sector. Based on the results of the ARDL analysis, the money supply and the loan-to-deposit ratio have a positive effect on economic development, whereas the liquidity ratio, total savings, and lending to the private sector have a negative effect.

Between 2004 and 2021, Biswas (2023) looked at four South Asian countries to see how financial inclusion affected their GDP development. Financial inclusion was measured by the availability of automated teller machines (ATMs), bank branches, deposit accounts, and loan accounts; GDP was used as a measure of economic growth in the research. Utilizing the Generalized Method of Moments, the study found that financial inclusion had a beneficial effect on regional economic growth. The effect of financial inclusion on GDP growth in Nigeria from 1989–2020 was studied by Umozurike, et. al. (2023). Gross domestic product was used to measure economic growth, while the money supply, capital, labor supply, ATM count, and commercial bank loans to rural areas were used to measure financial inclusion. When looking at the data using the ARDL technique, it was shown that financial inclusion had no meaningful impact on economic growth. Using panel data analysis spanning 2006–2015, Harly, Adegoke, et. al. (2017) performed an empirical study investigating the effect of financial inclusion on developing-country GDP growth. Predicting the effect of



financial inclusion on economic growth in a developing economy, the model found that three African nations' histories of operating ATMs, bank branches, and government spending were the most strong and beneficial. Using the Ordinary Least Squares method, Okoye, et. al. (2017) state that financial inclusion was a strategy for boosting Nigeria's economy from 1986 to 2015. Indicators of financial deepening, loans to rural areas, branch network, and loan-to-deposit ratio were some of the measures used to measure financial inclusion in the study. The research measures financial deepening using broad money supply to GDP and private sector credit to GDP ratios. In contrast to the promotion of rural credit distribution as a means of reducing poverty in Nigeria, this study shows that lending to the private sector did not fully foster economic growth in the country.

## MATERIALS AND METHODS

The research utilized longitudinal data pertaining to the Nigerian economy, sourced from the CBN statistical bulletin and the World Bank database, covering the period from 1989 to 2022. This study employs panel regression techniques including the ADF unit root test, ARDL methodology, and causality analysis.

### Model Specification

The model adapted in the study was coined from the study of Umozurike, *et. al.* (2023). Thus, the model for the study is stated as:

$$GRT = \alpha_0 + \beta_1 BLR_t + \beta_2 ATM_t + \beta_3 BRC_t + \beta_4 M2_t + \beta_5 CAP_t + \beta_6 LAB_t + \mu_t \quad (1)$$

Where:

*GRT* = Economic growth

*BLR* = Commercial Bank Loans to Rural Loans

*ATM* = Number of ATMs

*BRC* = Bank Branches in Rural Areas

*M2* = Money Supply (% of GDP)

*CAP* = Capital as measured by Gross Fixed Capital Formation

*LAB* = Labour Supply

$\mu$  = Error Term

$\beta_0 - \beta_6$  = Coefficients of Estimates

### Estimation Techniques

#### Unit Root Test

Commonly referred to as a stationarity test, this procedure is conducted to prevent erroneous outcomes. However, this may be requisite for some but not obligatory under the ARDL technique. This analysis will include the Unit Root Test to assess the stationarity of variables and the order of integration of the regression variables, utilizing the Augmented Dickey-Fuller test statistic prior to doing the cointegration bounds test. The method utilized is invariant to the sequence of variable integration. The Augmented Dickey-Fuller test will be conducted to ascertain the stationarity characteristics of the time series data incorporated in the model. The test is employed to determine the existence or absence of a unit root in the regression variables.

#### Auto Regressive Distributed Lag (ARDL)

The ARDL technique, developed by Pesaran and Shin (1999), was designed to address low power concerns associated with cointegration analysis, serving as an alternative to the Johansen and Juselius method.

Furthermore, in long-term analyses including mixed orders of integration at both the level and first difference, the ARDL methodology is preferred. The ARDL analysis encompasses many diagnostics or post-estimation tests, such as serial correlation and heteroscedasticity tests.

## RESULTS AND DISCUSSION

### ADF Unit Root Test

Table 1: Unit Root Test

Variables		ADF		Order of integration
	Critical values @5%	t- statistics	Prob.	
GDPR	-2.986225	-4.562080	0.0014	I(0)
ATM	-2.957110	-4.988088	0.0003	I(1)
BRC	-2.957110	-4.161409	0.0028	I(1)
BLR	-2.957110	-6.040300	0.0000	I(0)
M2	-2.957110	-3.528233	0.0136	I(1)
GCF	-2.960411	-10.45556	0.0000	I(1)
LAB	-2.981038	-3.107598	0.0384	I(0)

The ADF unit root result revealed that while economic growth, commercial bank to rural loan and labour force are stationary at level, other variables are stationary at first difference. However, before proceeding to the ARDL analysis, the appropriate lags necessary to undergird the ARDL analysis should be established and this is done via the VAR optimal lag length criteria.

### Optimal Lag Length Selection Criteria

Table 2: Optimal Lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-18.82255	NA*	0.703206*	2.459291*	2.807465*	2.534853*
1	-18.74717	0.093332	0.778734	2.547349	2.945263	2.633707
2	-17.37352	1.569883	0.765700	2.511764	2.959416	2.608916

Note: \* signifies the appropriate lag length according to each criterion.

Premised on the lag length criteria, the most appropriate lag for the ARDL model as preferred via the selection criteria is 0.

### Long Run Analysis

Table 3: ARDL Bounds Test (Co-Integration Result)

F-Statistics	Lower Bound (5%)	Upper Bound (5%)
4.940408	2.45	3.61

So, we can conclude that financial inclusion and economic growth co-integrate over the long run, which means we can conduct the long run analysis, based on the results of the limits test, which showed that the F-Statistics is bigger than the upper and lower bounds at 5%.

Table 4: ARDL Long Run Result

Variable	Co-Efficient	Std. Error	T-Statistics	P-Value
ATM	0.039291	0.079209	0.496043	0.6262
BRC	-1.399648	1.111093	-1.259704	0.2248

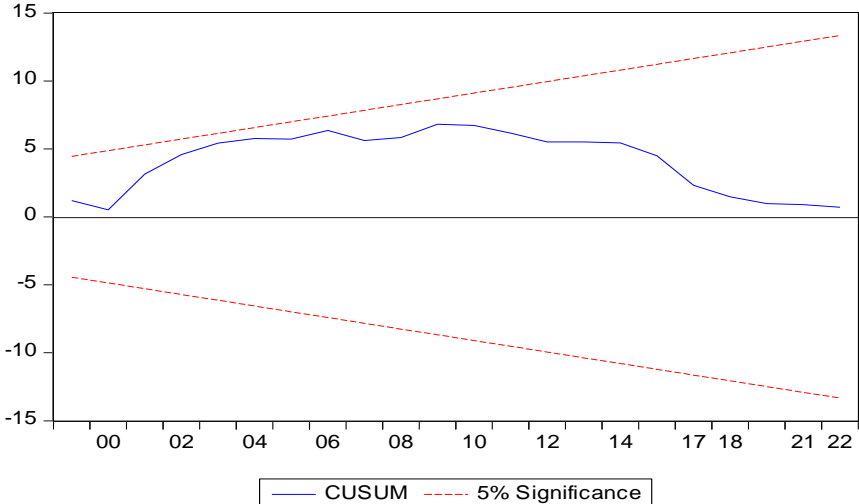
BLR	0.163215	0.295170	0.552954	0.5875
M2	1.016386	0.962707	1.055758	0.3059
GCF	-2.395718	1.970090	-1.216045	0.2406
LAB	-7.213578	8.849512	-0.815139	0.4263
C	160.230474	133.430595	1.200853	0.2463

Thus, premised on the result in table 4, it can be discovered that all financial inclusion measures or variables exert insignificant effect on economic growth.

Table 5: Diagnostic Tests (Post-Estimation Tests)

Test	F-Statistics	Prob. Value
<b>LM Serial Correlation</b>	0.508892	0.6112
<b>ARCH Heteroscedasticity</b>	1.896313	0.1845
<b>Normality (Jarque-Bera)</b>	0.568140	0.7527

**CUSUM TEST (STABILITY TEST)**



Thus, premised on the results in table 5, it can be inferred that the model is free from statistical challenges of serial correlation, heteroscedascity, abnormal distribution and model instability. Thus, the results can be relied on for inferences.

Table 6: Pairwise Causality Test

Direction of Causality	F-Statistic	Prob.
Flows from ATM to GDPR	0.17207	0.8435
Flows from GDPR to ATM	0.73620	0.4945
Flows from BRC to GDPR	0.83478	0.4520
Flows from GDPR to BRC	0.00381	0.9962
Flows from BLR to GDPR	0.72625	0.4990
Flows from GDPR to BLR	0.78069	0.4748
Flows from M2 to GDPR	2.82827	<b>0.0888</b>
Flows from GDPR to M2	1.92603	0.1780
Flows from GCF to GDPR	1.09266	0.3591
Flows from GDPR to GCF	0.09747	0.9077
Flows from LAB to GDPR	6.94613	<b>0.0067</b>
Flows from GDPR to LAB	0.32323	0.7284

Thus, table 6 provides empirical evidence that the only causal relationship within the model is a unidirectional causality running from each of money supply and labour force to economic growth which implies that money supply and labour force causes economic growth while there is no causal relationship between economic growth and other financial inclusion variables.

## DISCUSSION AND IMPLICATION OF FINDINGS

The purpose of this research is to find out how financial inclusion has affected GDP growth in Nigeria. The results of the stationary test show that the variables do, in fact, remain constant across time. Subsequently, the ARDL limits test revealed that financial inclusion and economic development have a long-run equilibrium relationship. However, there was no discernible effect of financial inclusion on GDP growth in the long-term ARDL studies. This indicates that fluctuations in financial inclusion, whether positive or negative, will not influence long-term economic growth. The financial inclusion ecosystem is becoming saturated and is likely to remain so in the long term. Consequently, many individuals are now being integrated into the financial system thanks to the emergence of neobanks like as Opay and Moniepoint, which are more accessible to the populace. Consequently, once saturation occurs, the impact of financial inclusion on economic growth may diminish and eventually dissipate, as financial inclusion rapidly becomes the standard for everybody. This outcome aligns with the findings of Umozurike, et. al. (2023). Moreover, the causality analysis indicated that the money supply and labor force drive economic expansion. The rise or reduction in the money supply equally influences individuals' capacity to spend and participate in economic transactions. The movement within the labor force influences economic productivity by reflecting the amount of individuals available for economic activity in a nation.

## CONCLUSION AND RECOMMENDATIONS

This study used data collected between 1989 and 2022 to draw conclusions on how financial inclusion affected GDP growth in Nigeria. Money supply, ATM count, bank branch count in rural areas, commercial bank loans to rural areas, labor force, and GDP growth rate were the metrics used to evaluate financial inclusion. The study included labor force participation and gross fixed capital formation as control variables. Analysis was conducted using the ARDL and causality techniques. Thus, it was shown that financial inclusion does not significantly affect economic growth, but that the money supply and the labor force do. The federal government should press the Central Bank of Nigeria to create an interest rate environment that encourages potential investors in rural regions to take out loans. Commercial banks in Nigeria should be required by the Central Bank to extend more credit to rural investors who do not have collateral. This would boost investment in good projects and have a good effect on the economy as a whole because an increase in the money supply stimulates economic growth.

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