

# Financial Reforms, Inclusive Growth and Economic Prosperity in Nigeria

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## Abstract

*This study delves into the transformative effects of financial reform on fostering inclusive growth and bolstering economic prosperity in Nigeria covering 2007Q1 to 2022Q4. Data were obtained from World Development indicators. Bank Asset Capitalization, Lending Rate, Banks Non-performing Loans, Commercial Bank Branches, Deposit with Commercial Banks and Borrowers from Commercial Banks were utilised to proxy financial reform while Poverty and Gross Domestic Product captured both Inclusive Growth and Economic Prosperity. Augmented Dickey Fuller unit root test and Auto-regressive Distributive Lag Model were utilised to ensure stationary status and analyse the variables. The study found that Bank Asset Capitalization and Lending Rate had favourable and substantial impact on poverty but insubstantially related with gross domestic product. However, Banks Non-performing Loans and Deposit with Commercial Bank reported an unfavourable but substantial impact on poverty and gross domestic product. Also, Commercial Bank Branches unfavourably related with poverty but insubstantial with gross domestic product. Finally, borrowers from commercial banks had a favourable and substantial effect on poverty but insubstantial with gross domestic product. Hence, it was concluded that financial reform substantially contributes to both inclusive growth and economic prosperity in Nigeria. It was recommended amongst others that Central bank of Nigeria (CBN) should enhance financial inclusion initiatives and monitor lending practices to prioritize sectors crucial for poverty reduction such as agriculture and SMEs.*

**Keywords:** Financial Reform, Inclusive Growth, Economic Prosperity.

**JEL Classification Code:** G32, J21, P46.

## Introduction

In Nigeria, the most populated and largest economy in Africa, policymakers and stakeholders are committed to the pursuit of sustainable and inclusive economic growth. It is imperative for developing economies to acknowledge the critical role of financial reform in promoting economic prosperity and inclusive growth. Nigeria has initiated a series of policy initiatives with the objective of fortifying the financial sector, fostering financial inclusion, and bolstering the economy's resilience. Inclusive growth and economic prosperity in Nigeria has been the subject of augmented attention among policymakers as they endeavour to navigate the intricacies of a swiftly changing economic landscape, in the context of evolving global economic dynamics and domestic socioeconomic challenges. Financial reform is a deliberate and systematic process that involves modification of the financial system's structure, regulations, and operations to enhance its efficacy, stability, transparency, and inclusiveness. As per Akinwale (2018) and Akakabota (2015), financial reform is a collection of

regulations, policies, and directives that are implemented to influence the operations of the banking sector.

It is important to acknowledge that Nigeria has implemented a series of financial reforms in recent years, which have had a substantial impact on the economy. These reforms intended to improve governance, promote economic development, and enhance financial stability. In 2016, the Central Bank of Nigeria (CBN) implemented a more flexible exchange rate policy to address foreign exchange shortages and align the official rate with the parallel market rate. This was a substantial reform. This policy contributed to the stabilisation of the naira by reducing the disparity between the official and black-market rates. The Naira was trading at approximately ₦410/\$1 in the official market by 2021, compared to ₦570/\$1 in the parallel market. This represents a substantial decrease from the high discrepancies of previous years. The banking sector has also undergone substantial reforms, including the fortification of the regulatory framework and a surge in the minimum capital requirements for banks. Initially implemented in 2010, this initiative has resulted in a more resilient finance sector. For instance, the average capital adequacy ratio for commercial banks augmented to approximately 15.2% in 2021, surpassing the regulatory minimum of 10% for national banks and 15% for international banks.

Financial inclusion has been another critical area of reform. One of the objectives of the National Financial Inclusion Strategy's implementation in 2012 was to enhance financial services accessibility. The Enhancing Financial Innovation & Access (EFInA) report indicates that the percentage of the adult population with access to formal financial services has augmented from 48.6% in 2010 to 64.1% in 2020 as a result of this initiative. Additionally, monetary policy modifications have been vital. The CBN has frequently amended the Monetary Policy Rate (MPR) to control inflation and promote economic growth. For example, in July 2022, the MPR was augmented to 14% in an effort to mitigate inflationary pressures. In June 2022, inflation still hovered at approximately 18.6%, despite these endeavours, which were partially attributable to domestic factors and global supply chain disruptions. There has been an ongoing effort to diversify the economy and decrease dependence on energy revenue through fiscal reforms. In addition, it has been imperative to enhance public financial management and budget transparency. Since the mid-2010s, non-oil income has grown steadily, and in 2021 it will account for almost 44% of total government revenue, up from 30% a few years ago. Treasury Single Account (TSA) implementation has resulted in augmented transparency and decreased leakages in public finances. Another substantial concentration has been on infrastructure investment, with augmented government expenditure to stimulate economic growth. These endeavours, which have been notably apparent since 2015, have resulted in enhancements in the utility and transportation sectors; however, obstacles persist. For instance, the rehabilitation of substantial roads and railways has enhanced logistics and transport, thereby stimulating economic activity.

As a result, the primary objective of financial reform is to promote inclusive growth, which is the equitable distribution of economic opportunities across all socioeconomic groups and regions, with a particular emphasis on the marginalised and underprivileged. This entails the promotion of broad-based participation in economic activities, the reduction of income inequality, and the equitable distribution of the benefits of economic development. Inclusive growth, as defined by the European Commission (2012), is the process of increasing the number of jobs, particularly those that are more favourable to women, young people, and older workers, and assisting individuals of all ages in anticipating and managing change through investments in skill and training, modernising labour markets and welfare systems, and ensuring that the benefits of growth are distributed throughout society (OECD, 2014). This perspective is consistent with Felife (2012), who defined inclusive growth as a process in which all members of a society are able to contribute to and partake in the development process on an equal basis, irrespective of their individual circumstances.

In an effort to combat poverty, unemployment, and social exclusion, likewise to establish a more cohesive and resilient society, it is imperative to achieve inclusive growth. In this context, the interplay between inclusive growth and financial reform is a critical determinant of economic prosperity. In this context, economic prosperity is a condition of general prosperity and well-being within an economy. Nevertheless, it is crucial to acknowledge that the Nigerian economy has experienced a massive surge in destitution and unemployment over the past five years, despite the

favourable effects of inclusive growth and financial reforms. For example, the unemployment rate in Nigeria was 5.1% in 2018, but it promptly rose to 5.2% and 5.6% in 2019 and 2020. It then declined to 5.3% and 3.65 in 2021 and 2022, respectively (ILO, 2022). Consequently, the poverty rate experienced a similar trajectory, with a reported 30.9% in 2018 and a subsequent surge to 40.1% in 2019 and 2020, culminating in a surprising 63% in 2022 (WDI, 2022). This paper endeavours to address the subsequent inquiry in light of the aforementioned. What is the impact of non-performing loans, liquidity, ratio, unemployment, and destitution on economic prosperity in Nigeria?

### **Objective of the Study**

After an in-depth account of the interplay between financial reform, inclusive growth and economic prosperity. This paper focused on how bank asset capitalisation, lending rate, bank non-performing loans, commercial bank branches, deposit with commercial bank, and borrowers from commercial bank, affect inclusive growth and economic prosperity in Nigeria covering 2007Q1 to 2022Q4.

### **Literature Review**

#### **Theoretical Literature**

##### **Financial Liberalization Theory**

In 1973, Ronald McKinnon proposed financial liberalisation theory, which posits that the liberalisation of financial markets fosters economic prosperity by incorporating a number of critical assumptions. Initially, it is predicated on the premise that markets are inherently efficient and capable of optimally allocating resources when government restrictions are abolished. In congruent with the theory, this efficacy will surge competition among financial institutions, resulting in improved service provision, reduced costs, and, in the end, economic development. Furthermore, it is anticipated that financial liberalisation will encourage innovation in the financial sector, thereby enabling the creation of new technologies and instruments that enhance investment and surge access to finance. Liberalised markets facilitate the unrestricted flow of funds both domestically and internationally, which in turn stimulates productivity and investment. Capital mobility is another presupposition. Lastly, financial liberalisation theory posits that market-based allocation mechanisms, including interest rate determination and risk-based credit allocation, are instrumental in fostering sustainable economic development and prosperity.

Those who are opposed to financial liberalisation, such as Milton Friedman and Friedrich Hayek in 1936, likewise Joseph Stiglitz and Ha-Joon Chang, refute these assumptions. They advise against the potential consequences of unregulated financial markets, including the exacerbation of income inequality, financial instability, and excessive risk-taking. Critics have raised concerns about the potential for financial liberalisation to benefit the affluent elite and powerful financial institutions at the expense of broader societal interests, which could have an unfavourable impact on economic stability and equity.

##### **Endogenous Growth Theory**

Endogenous growth theory, which was promoted by economists such as Paul Romer in 1986 and Robert Lucas in 1988, posits that sustained economic growth is predominantly driven by external factors, including the development of human capital, innovation, and knowledge. Advocates contend that policies that prioritise the accumulation of human capital and innovation can result in self-sustaining economic expansion. The fundamental premise of endogenous growth theory is that knowledge is a public benefit that can be generate and disseminated at minimal marginal costs. Investments in technology adoption, research and development (R&D), and education contribute to the continuous expansion of knowledge. Furthermore, certain economic activities demonstrate increasing returns to scale, which implies that productivity and output surge as additional resources are allocated to them. Investments in innovation and knowledge creation generate favourable externalities that benefit the entire economy.

Human capital, which encompasses entrepreneurship, knowledge, and skills, is essential for the acceleration of economic development. Policy interventions and market incentives can influence investments in education, training, and health, which are considered endogenous, as they contribute to technological advancements and enhance individual productivity. Governments can foster innovation

by implementing policies that prioritise intellectual property rights, promote competition, and offer incentives for research and development. Critics of endogenous growth theory contend that it may oversimplify the dynamics of economic growth and understate the significance of external factors, including geography and natural resources. They also query the efficacy of policy interventions in promoting the accumulation of human capital and innovation. Endogenous growth theory offers valuable insights into the internal determinants of economic prosperity and the role of policy in promoting long-term development, despite its critics.

### **Empirical Literature**

Ejura (2022) utilised time-series data from quoted banks' annual reports to examine the impact of financial sector reforms on economic development in Nigeria from 1981 to 2019. The results of the OLS-based study showed that SME loans and interest rate deregulation had unfavourable and insignificant relationships with GDP during the study period, whereas bank capitalisation had favourable and substantial relationships. To further examine how changes to Nigeria's banking sector affected GDP growth, the study used a correlational research strategy. A favourable but insignificant effect of liquidity on GDP is also seen.

Using the social opportunity function, Ajayi and Oburota (2022) examined inclusive development in Nigeria. The social opportunity approach looks at the economy's education, health, and employment rates to see whether inclusive growth has happened over time. This study aims to assess the success of inclusive development initiatives in Nigeria by looking at how well they distribute opportunity. We used information from the General Household Survey (GHS) conducted by the National Bureau of Statistics in 2012/2013, 2015/2016, and 2018/19 for our research. The study's findings showed that when it came to employment, education, and healthcare, Nigeria fell short of achieving inclusive development.

Toriola et al (2022) examine the impact of the social dimension of inclusive growth on poverty reduction in the Economic Community of West African States (ECOWAS) countries. GDP per capita has a substantial adverse impact on poverty, whereas inequality, education, and health outcomes do not exhibit a substantial impact on poverty. While the estimates of inequality, health, and education outcomes are negligible, poverty decreases as inequality rises, while it rises as education and health outcomes do.

Abiola et al (2021) investigate the influence of financial sector reform on the HDI in light of the most recent statistics, which indicate that Nigeria's HDI has improved since 2005. The study utilised a variety of variables as proxies for financial reforms and implemented the Granger causality test and vector error correction model to evaluate the relationship's influence during the 1980–2017 period. The upshots indicated an unfavourable long-term correlation between HDI and financial sector reform variables, with the exception of proprietors' equity. The research also demonstrated that the ratio of total savings to GDP and HDI exhibited favourable short-term dynamics.

In Nigeria, Olanrewaju et al (2020) investigated the correlation between inclusive growth and institutional quality, as assessed by the real GDP per person employed (RGDPE). An ARDL Bounds testing approach was implemented to test cointegration utilising annual secondary time series data from 1998 to 2017. Institutional quality had a substantial impact on inclusive growth in Nigeria, in congruent with the study.

In an initial attempt to develop inclusive growth architecture, Iyoboyi and Sabitu (2020) examine the influence of economic development on poverty and employment in Nigeria. In congruent with the OLS regression, the growth in Nigeria during the investigation did not result in a surge in employment or a decrease in poverty. The correlation between a surge in growth rate and a surge in destitution and unemployment is not statistically substantial.

Akpononu et al (2019) investigate the impact of financial sector reforms on economic development in Nigeria between 1986 and 2013. The study specifically assesses the degree to which economic development in Nigeria has been influenced by bank capitalisation (CAP) and interest rate (INTD). The World Development Indicators of the World Bank and the Central Bank of Nigeria Statistical Bulletin were the sources from which secondary data were derived. The two hypotheses that were formulated for the study were tested utilising OLS regression. In Nigeria, the study

demonstrated that bank capitalisation (CAP) and interest rate (INTD) have both had a substantial impact on economic development, albeit in the long term.

Olowofela et al (2018) conducted an analysis of the influence of financial reforms on economic development in Nigeria. This investigation encompassed the years 1986–2016. During the period, the upshots indicate that the implementation of financial reforms had a beneficial effect on economic growth.

Akinwale (2018) investigated the correlation between economic growth and financial sector reforms in Nigeria. The study employed time series data from the Central Bank of Nigeria's Statistical Bulletin and World Bank indicators, which covered the period from 1986 to 2016. Establishing a long-term relationship among the variables was the outcome of cointegration. The outcome also demonstrated an unfavourable correlation between economic growth and financial sector reforms, as measured by the market capitalization-GDP ratio. Consequently, the variables considerably contributed to the surge in industrial output during the study period. Nevertheless, it was determined that there was a favourable correlation between developments in the model, economic growth, and financial sector reforms, as indicated by credit to the private sector and commercial bank loans. Ultimately, the Granger Causality test confirmed the existence of both unidirectional and bidirectional relationships within the model.

Ishioro (2017) employed time series data from 1970 to 2013 to examine the relationship between economic growth and banking sector reforms in the Nigerian economy. The long- and short-term relationships between economic growth and banking sector reforms were specifically determined utilising the ARDL Bounds test. The research reveals that the interest rate margin is more influential than the other variables in the model in elucidating the banking sector reforms and economic growth. Credit from the banking sector to the private sector was statistically insubstantial and had an unfavourable impact on economic growth in Nigeria. So, it seems that growing the financial sector is not helping the economy grow. Meanwhile, inflation significantly hinders economic growth, in congruent with statistics. There should be clear and strict adherence to the banking sector reforms notwithstanding changes in the country's political leadership.

To address the problems with inclusive development, Eregha and Mesagan (2017) analysed the situation in Nigeria. The research included a range of topics, including economic development, green growth, inclusive green growth, and inclusive growth. Investing in human capital, creating jobs, transforming structures, providing social safety, and having strong institutions are key factors that determine inclusive development. A high dependence ratio, widespread poverty, and the rapid depletion of natural wealth indicate that Nigeria has a long way to go before it can genuinely achieve inclusive growth. Additionally, the calibre of institutions is nearly nonexistent, and the delivery of health care is quite substandard.

In congruent with Umejiaku (2017), the Nigerian banking sector has undergone numerous reforms since 1986. As a consequence of the reforms implemented over the past three decades, it monitored the expansion of the Nigerian banking sector. Nigeria has experienced substantial growth in its bank-based financial sector, and its institutional framework has also strengthened over time. The purpose of these frameworks was to disrupt the oligopolistic structure of the industry, surge competition, foster creativity, and enhance the efficacy of banking service delivery by increasing the capital base. The high rates of non-performing loans and the fact that a small number of banks hold a disproportionate share of the deposit market show that banking reform has not been successful in its entirety.

In their 2015 study, Oseni and Osen investigate the reasons behind the lack of noticeable effects from economic progress throughout the years and provide solutions to reverse this trend. Results showed that the energy industry, which does not need a lot of human labour, is responsible for the majority of a country's gross domestic product. The research also found that poverty accounts for a significant portion of the nation's gross domestic product (GDP) and more than eighty percent (80%) of government income. Additionally, the research found that the unemployment rate and the degree of poverty in the population need immediate and severe action. In an effort to implement effective measures, it is necessary to create conducive climate, provide the necessary infrastructure, and establish easily accessible financing programs. Like any other economy, Nigeria's financial system is crucial to achieving inclusive economic growth. It could do more to help the economy by doing away

with the current lending conditions that prevent many micro, small, and medium-sized enterprises (MSMEs), the driving force behind economic development, from accessing funds.

Using statistics from the Statistical Bulletin of the Central Bank of Nigeria and bank annual reports, Akakabota and Mmadu (2015) analyse the impact of reforms to the financial sector on GDP growth in Nigeria from 1986 to 2012. Findings indicate a favourable correlation between claims on deposits at Nigerian banks and GDP development in the country. The anticipated interest rate (INRT) and the credit claims of deposit money banks (DMBCC) are in line with apriority. In other words, the interest rate that banks charge for loans has an unfavourable correlation with economic development, but the credit claims of deposit money institutions have a favourable one. Through the generation of interest income from loans and advances, a surge in loan and advances stimulates economic growth. In accordance with our discoveries, Owusu and Odhiambo (2015) investigate the correlation between sustainable economic growth in Ghana and financial sector reforms. Financial sector reforms in Ghana have an insubstantial long-term effect on economic growth, in congruent with the paper. In the past, there have been numerous studies that have reported conflicting or inconclusive upshots regarding the impact of financial reforms on economic development. This supports these upshots. The paper concludes that economic development in Ghana is impact by a surge in capital stock, rather than financial sector policy reforms.

Omankhanlen (2012) investigates the implementation of financial sector reforms and their subsequent impact on the Nigerian economy. The investigation encompasses the years 1980 through 2008. The financial sector developments that Nigeria's economy underwent at various points had an impact on the economy's operations. Nevertheless, this does not imply that the financial sector's improvement is solely attributable to the reforms. In this research study, it was determined that an enhancement in financial intermediation was a prerequisite for promoting economic development, increasing productive capacity, and stimulating investment.

Olajide et al (2011) investigated the influence of financial reforms on the organisational performance of banks in Nigeria from 1995 to 2004. The study employed panel data econometrics in a pooled regression, which involved the combination and estimation of cross-sectional and time-series observations. The econometric panel regression analysis confirmed that the profitability level and net interest margin of Nigerian banks are both influenced by the effects of government policy reforms, bank specific characteristics, and industry structure. Industry stricture variables did not appear to have a substantial impact on the profitability and efficiency performance of banks in Nigeria, whereas bank-specific characteristics appear to have a substantial favourable influence.

### **Gaps and Value Addition**

As a result, this research discourse examined a substantial corpus of pertinent prior work on financial reform in the context of economic prosperity and inclusive growth. In spite of the inconsistent and occasionally conflicting upshots, the research conducted by Ejura (2022), Abiola et al. (2021), Olanrewaju et al. (2020), and Akpunonu et al. Olowofela et al. (2019); Akinwale (2018); Akakabota and Mmadu (2015); Omankhanlen (2012); and Olajide et al. (2011), all reached the same conclusion: financial reforms have a substantial impact on economic prosperity and inclusive growth in terms of bank capitalisation, interest rates, and deposit money bank credit. Conversely, Ajayi and Oburota (2020), Iyoboyi and Sabitu (2020), Eregha and Mesagan (2017), Umejiaku (2017), Oseni and Osen (2015), and Owusu and Odhiambo (2015) have submitted that financial reform is not substantially associated with economic prosperity and inclusive growth.

In addition, this paper found that certain previous studies conducted by Toriola et al. (2022) and Ishioro (2017) reported that components of financial reform, such as bank capitalisation, interest rate, and deposit money bank credit, are substantial but either favourable or unfavourable with both inclusive growth and economic prosperity. In other cases, they are insubstantial with the dependent variables. The upshots also indicated that prior research had concentrated on financial reform, economic growth, or poverty, with varying methodological approaches and variables. However, there was a lack of documentation regarding the combined impact of financial reform on economic prosperity and inclusive growth. Moreover, prior research primarily employed bank capitalisation, interest rate, and deposit money bank credit as proxy indicators for financial reform. There was no mention of the financial reform's implications for commercial bank branches, bank non-performing

loans, and deposits with commercial banks. Consequently, this study will contribute to the existing body of literature by incorporating commercial bank branches, bank non-performing loans, and deposits with commercial banks into the explanatory variables, which were not previously considered. This indicates a gap in the current body of literature.

### Data Sources and Method of Analysis

The variables were analysed utilising the Auto-Regressive Distributive Lag (ARDL) Model and the Augmented Dickey Fuller (ADF) unit root approach, with secondary data obtained from the World Bank's World Development Indicator (WDI) and the Central Bank of Nigeria (CBN) Statistical Bulletin 2022.

### Model Specification

The model of this paper is a modification of Olowofela et al. (2018) work on Financial Sector Reforms and Economic Growth. For this work, the below equation was utilized;

$$GDP = F(LOAN, CPS, INV, LEND) \quad (1)$$

Where:

GDP = Gross Domestic Product, LOAN = Commercial/deposit money banks loan, CPS = Credit to Private Sector, INV = Investment/capital formation and LEND = Lending rate

Consequently, the examiner modified the model to incorporate additional variables in an effort to achieve the objective of this investigation. The Bank Asset Capitalisation (BACAP), Bank Non-performing Loans (BNPL), Lending Rate (LR), Commercial Bank Branches (CBB), Deposit with Commercial Bank (DCB), and Borrowers from Commercial Bank (BCB) are all part of this set. The inclusion of these factors is indicative of financial reform. The new, expanded inclusive growth and economic prosperity model is as follows:

Financial Reform and Inclusive Growth Model

$$POR = f(BACAP, LR, BNPL, CBB, DCB, BCB) \quad (2)$$

$$POR = \beta_0 + \beta_1 BACAP + \beta_2 LR + \beta_3 BNPL + \beta_4 CBB + \beta_5 DCB + \beta_6 BCB \quad (3)$$

$$POR_t = \beta_0 + \beta_1 BACAP_t + \beta_2 LR_t + \beta_3 BNPL_t + \beta_4 CBB_t + \beta_5 DCB_t + \beta_6 BCB_t + \mu_t \quad (4)$$

Financial Reform and Economic Prosperity Model

$$GDP = f(BACAP, LR, BNPL, CBB, DCB, BCB) \quad (5)$$

$$GDP = \beta_0 + \beta_1 BACAP + \beta_2 LR + \beta_3 BNPL + \beta_4 CBB + \beta_5 DCB + \beta_6 BCB \quad (6)$$

$$GDP_t = \beta_0 + \beta_1 BACAP_t + \beta_2 LR_t + \beta_3 BNPL_t + \beta_4 CBB_t + \beta_5 DCB_t + \beta_6 BCB_t + \mu_t \quad (7)$$

Where:

POR = Poverty, GDP = Gross Domestic Product, BACAP = Bank Asset Capitalisation, LR = Lending Rate, BNPL = Bank Non-Performing Loan, CBB = Commercial Bank Branches, DCB = Deposit with Commercial Bank, Borrowing from Commercial Bank.  $\mu$  = Error term,  $\beta_0$  = Constant and  $\beta_1$  to  $\beta_6$  = Parameter Estimates.

In congruent with the predictions,  $\beta_1$ , and  $\beta_2$  are greater than 0,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$  are less than 0. This means that  $\beta_1$ , and  $\beta_2$  should, in theory, have a favourable correlation with the commodity price index, as a surge in MPR and CRR will prevent financial institutions from lending money, which will raise the cost of capital and, consequently, the commodity price. On the other hand,  $\beta_3$ ,  $\beta_4$ , and  $\beta_5$  are predicted to have an unfavourable correlation with commodity prices.

### Description of Variables in the Model

#### Poverty (POR)

It is the condition of not having enough money to cover necessities including food, housing, clothes, healthcare, and education. People are typically deemed to be living in poverty if their income falls below a certain threshold. Not having enough money to pay for basic necessities, opportunities, or safety nets is another definition of poverty. The poverty rate, expressed as a percentage, is a surrogate for inclusive growth.

#### Gross Domestic Product (GDP)

The GDP measures the monetary worth of all final products and services created within a nation's boundaries over a certain time frame, usually a year or three months. It is a general indicator of the state of a country's economy. The currency utilised to quantify economic success is the US dollar, which stands for GDP.

### **Bank Asset Capitalization (BACAP)**

The ratio of a bank's capital (equity and retained profits) to its total assets is a measure of its financial health and stability. To keep depositors and other stakeholders confident, a bank needs enough capitalisation so it can weather any losses and keep operating. As a result, low-income people can benefit from augmented access to banking services and loans, which in turn allows them to invest in their own businesses, their children's education, and their health care, ultimately lifting themselves out of poverty. The ability of banks to lend money to individuals and companies is dependent on their capitalisation. A surge in GDP is the result of augmented lending, which in turn encourages consumer spending, corporate development, and infrastructure investment. It follows that the hypothesised connection between bank asset capitalisation and poverty is unfavourable and between bank asset capitalisation and GDP is favourable. One proxied indicator of financial reform is the percentage change in bank asset capitalisation.

### **Lending Rate (LR)**

This is the charge that lenders make to borrowers on the money that they borrow for a certain amount of time. It is an important component in determining whether or not to borrow money and whether or not to invest since it represents the cost of borrowing money. Additionally, low-income people and small enterprises will have a harder time gaining access to credit due to augmented lending rates, which would stunt their development and progress. Because individuals and companies will be unable to afford the investments and upgrades that are essential to their economic well-being, this limitation will make economic mobility harder and poverty levels worse. But the cost of borrowing money rises with interest rates, which can reduce spending and investment. Businesses may postpone or scrap expansion plans, and consumers may reduce spending, all of which contribute to a slowdown in GDP growth. Here, we utilise the lending rate as a proxy for financial reform, assuming that it has a favourable relationship with poverty and an unfavourable relationship with GDP.

### **Bank Non-Performing Loan (BNPL)**

If a borrower has not paid back a loan's principal and interest as agreed upon for a certain amount of time—usually 90 days or more—the loan is considered non-performing and the lending institution runs the risk of losing money on it. An indication of larger economic trouble, high nonperforming loan levels show that many borrowers are having trouble repaying their debts. Reduced profitability and higher risk characterise a bank's financial health when it confronts a large number of nonperforming loans. Thus, theorising suggests that non-performing loans held by banks would have a detrimental impact on economic activity and production, while simultaneously increasing poverty. Measured as a percentage, bank non-performing loans are a surrogate for financial reform.

### **Commercial Bank Branches (CBB)**

These are the actual places where clients may go to get a variety of banking services. Typical examples of such services include taking deposits, lending money, overseeing accounts, and advising clients financially. Particularly in regions with limited digital banking adoption, branches serve as key touchpoints for clients. The more bank branches there are, the more likely it is that people in underserved or rural regions will be able to use these services. Financial inclusion is the process by which more people and companies are able to participate in the economy as a result of easier access to banking services. More bank branches also help the economy expand because they make it simpler for people and companies to get the money they need. This research takes it as read that more commercial bank outreach will have a favourable effect on economic activity and production while simultaneously reducing poverty to a substantial degree. One indicator of financial reform is the number of commercial bank branches relative to the total number of adults.

### **Deposit with Commercial Banks (DCB)**

The term "deposit" utilised to describe the money that people or companies put into an account at a commercial bank. Accounts for savings and fixed deposits fall under this category. Banks receive deposits as a main source of financing for various financial services and loans. Depositing



funds in commercial banks re-establishes access to formal financial services, especially for low-income communities. By becoming a part of the financial system, they are able to better manage their money, put some away for emergencies, and put their money towards chances that will boost their economy. This means that banks are able to lend more money to companies and individuals when deposit levels are high. a surge in GDP is the result of augmented financing, which in turn encourages consumer spending, corporate development, and infrastructure investment. Banks are able to fund more ambitious initiatives and innovations with a solid deposit base, which in turn raises economic production and productivity. There will be an unfavourable effect on poverty and a favourable effect on GDP from deposits made at commercial banks, in congruent with this research. Measured in terms of per thousand adults, deposits from commercial banks serve as a proxy for financial reform.

### Borrowers from Commercial Banks (BCB)

Anyone or everything that can get a loan or line of credit from a commercial bank falls under this category. Personal spending, company growth, real estate acquisitions, and other investments are all acceptable uses for these loans. Education, healthcare, housing, and small company investments benefit greatly from augmented access to finance, particularly for those from low-income backgrounds. By enhancing their standard of living and economic standing, these investments have the potential to alleviate their poverty. On the other side, more borrowing from commercial banks helps the economy thrive since it provides the capital for more spending, new businesses, and improved infrastructure. This article proceeds on the assumption that commercial bank borrowers will have an unfavourable effect on poverty and a favourable effect on GDP. One indicator of financial reform is the number of borrowers from commercial banks, expressed as a percentage of the adult population.

### Empirical Data Analysis

#### Unit Root Test

This research employed the ADF unit root test to establish the order of integration of the variables under investigation, with the goal of minimising false regression. This was useful for deciding on the best approach.

Table 1: Unit Root Test utilising Augmented Dickey Fuller (ADF)

Variables	Levels		First Difference		Order of Integration	Probability-value
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value		
LPOR	-3.548960	-2.911730			1(0)	0.0099
LGDP	-0.452507	-1.946447	-2.832092	-1.946447	1(1)	0.0054
LBACAP	-3.045242	-2.911730			1(0)	0.0065
LLR	-1.558994	-2.911730	-3.121877	-2.911730	1(1)	0.0303
LBNPL	-2.237251	-2.911730	-3.355122	-2.911730	1(1)	0.0167
LCBB	-1.338349	-2.911730	-3.259504	-2.911730	1(1)	0.0214
LDCB	-1.586490	-2.911730	-2.925442	-2.911730	1(1)	0.0235
LBCB	-2.303853	-2.911730	-2.925442	-2.911730	1(1)	0.0483

Source: Computation carried out by author 2024\* Level of significance at 5%

To verify the variables' integration order, this research utilised ADF unit root tests; Table 1 displays the upshots. ADF upshots revealed alternative orderings of variable integration or a mix of I(0) and I(1) series. In congruent with the ADF upshot at level 1(0), LPOR and LBACAP are stationary. However, after differencing 1(1), LGDP, LLR, LBNPL, LCBB, LDCB, and LBCB all become stationary. Because of this, studying the long-term connection between these variables is best accomplished utilising the ARDL Bounds test method of co-integration.

Model One (Financial Reform and Inclusive Growth Model)

Table 2: ARDL Bound Test

Test Statistics	Value	K
F-statistics	14.58320	6
Significance	I (0)	1(1)
10%	2.12	3.23

5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Source: Computation carried out by author 2024

Table 2 demonstrates a long-term relationship between the variables since the F-statistic of 14.58320 is greater than the critical values of the bottom and upper limits. We reject the null hypothesis and draw the conclusion that the connection is long-term. This point to a long-term relationship between inclusive development and Nigeria's financial reform. Accordingly, the analysis predicts the link between inclusive growth and financial reform in the long term.

Table 3: ARDL Long-Run Result (LPOR)

Variable	Co-efficient	Std. Error	t-Statistic	Prob
LBACAP	-0.052376	0.119871	-0.436933	0.6651
LLR	-0.958381	0.427430	-2.242192	0.0320
LBNPL	0.149515	0.081174	1.841898	0.0748
LCBB	-1.946849	0.503945	-3.863216	0.0005
LDCB	-0.750342	0.192085	-3.906297	0.0005
LBCB	-0.458418	0.297106	1.542944	0.1327

Source: Computation carried out by author 2024

Table 3 shows the long-term result of the model. Utilising the logarithm-value of poverty (LPOR) as a proxy for financial reform in Nigeria indicated an unfavourable logarithm of bank asset capitalisation (LBACAP) of (-0.052376). For every unit surge in the logarithm of bank asset capitalisation (LBACAP) in Nigeria, the logarithm-value of poverty (LPOR), a proxy for inclusive growth characteristics, would reduce by around 0.05%. There is no statistically substantial correlation between poverty and the logarithm-value of bank asset capitalisation ( $p=0.6651$ ). This is what economists expect to happen. A surge in the capitalisation of bank assets is expected to cause a decrease in the logarithm-value of poverty.

When applied to the lending rate (LLR), the logarithm-value of poverty (LPOR) is unfavourable (-0.958381), which stands in for inclusive growth in Nigeria in the long term. What this implies for Nigeria is that for each unit increase in the logarithm-value of lending rate (LLR), the logarithm-value of poverty (LPOR), a proxy for inclusive growth, would drop by around 0.96%. There is a statistically substantial relationship ( $p=0.0320$ ) between the logarithms of poverty and the logarithms of lending rate (LLR). This is what economists expect to happen. People with low incomes and small enterprises will find it more difficult to get loans if the lending rate (LLR) rises, which will limit their prospects for development and growth.

As a long-term alternative to inclusive growth in Nigeria, the logarithm of bank non-performing loan (LBNPL) also has a favourable value of +0.149515 when utilising the logarithm-value of poverty (LPOR). As a measure of inclusive growth, the logarithm-value of poverty (LPOR) would surge by about 0.15% per unit increase in the logarithm-value of Nigeria's bank non-performing loans (LBNPL). The logarithm-value of poverty has no substantial relationship with the logarithm-value of LBNPL (bank non-performing loan), in congruent with the probability-value of 0.0748. Economic theory lends credence to this result. The expected result is that when the value of bank non-performing loans rises, the logarithm-value of poverty decreases.

Using the logarithm of commercial bank branches (LCBB) as a proxy for inclusive growth in Nigeria over the long term yields an unfavourable value of -1.946849. This indicates that with every unit surge in the logarithm-value of commercial bank branches (LCBB) in Nigeria, the logarithm-value of poverty (LPOR), a measure of inclusive growth, will fall by around 1.94 units. If you take the logarithm of poverty and multiply it by the logarithm of commercial bank branches (LCBB), you get a very substantial association ( $p=0.0005$ ). This is what economists expect to happen. Our best estimate indicates that the logarithm-value of poverty will decrease as LCBB grows. A larger network of bank branches makes banking more accessible to more people, even in outlying locations. This, in turn, promotes financial inclusion by making it easier for more people to establish accounts, get loans, and use other financial products.

When we replace inclusive growth in Nigeria with the logarithm of poverty (LPOR), we get an unfavourable value of +0.750342 for the logarithm of deposit with commercial bank (LDCB). The logarithm-value of poverty (LPOR), a measure of inclusive growth, would decrease by about 0.15 percentage points per unit increase in the logarithm-value of deposits with commercial banks (LDCB) in Nigeria. Logarithm-value of poverty is substantially connected to logarithm-value of deposit with commercial bank (LDCB), in congruent with the probability-value of 0.0005. Economic theory lends credence to this result. The expected result is that as the logarithm-value of deposits with commercial banks rises, so does the logarithm-value of poverty.

Finally, the logarithm of commercial bank borrowers (LBCB) has an unfavourable value of -0.458418 when utilising the logarithm-value of poverty (LPOR) as a long-term alternative for inclusive growth in Nigeria. The logarithm-value of poverty (LPOR), a measure of inclusive growth, would decrease by about 0.46 percentage points per unit increase in the logarithm-value of borrowers from commercial banks (LBCB) in Nigeria. A probability-value of 0.1327 indicates that there is no statistically substantial relationship between the logarithm of poverty and the logarithm of borrowers from commercial banks (LBCB). There is no basis for this result in economic theory. As the logarithm-value of commercial bank borrowers rises, the expected result is a decrease in the logarithm-value of poverty.

Table 4: ARDL Short-run Result (LUNE)

Variable	Co-efficient	Std. Error	t-Statistic	Prob
C	5.556094	0.504581	11.01131	0.0000
D(LBACAP)	0.126897	0.025413	4.993354	0.0000
D(LBACAP-1)	0.103718	0.026191	3.960070	0.0004
D(LBACAP(-2)	0.105292	0.025521	4.164899	0.0002
D(LLR)	0.577646	0.315570	1.830485	0.0765
D(LLR(-1)	0.540878	0.419069	1.290655	0.2061
D(LLR(-2)	0.957108	0.352752	2.713258	0.0106
D(LBNPL)	-0.144149	0.053345	-2.702186	0.0109
D(LBNPL(-1)	-0.104707	0.066991	-1.563005	0.1279
D(LBNPL(-2)	-0.155156	0.061778	-2.511494	0.0173
D(LCBB)	-2.024766	0.413045	-4.902050	0.0000
D(LCBB(-1)	-0.122954	0.539476	-0.227913	0.8212
D(LCBB(-2)	-0.555949	0.411568	-1.350809	0.1862
D(LDCB)	0.396345	0.346402	1.144174	0.2610
D(LDCB(-1)	0.391763	0.465877	0.840916	0.4066
D(LDCB(-2)	0.552391	0.379690	1.454848	0.1555
D(LBCB)	0.801979	0.162733	4.928197	0.0000
D(LBCB(-1)	0.175919	0.200726	0.876414	0.3873
D(LBCB(-2)	0.286585	0.161833	1.177086	0.0861
Ecm (-1)	-0.428350	0.038905	-11.01013	0.0000
Adj R2 = 0.835494, F-stat = 16.23638 (0.000000), DW = 2.225836				

Source: Computation carried out by author 2024

There is an unfavourable value and statistical significance at the 0.05 level for the co-efficient estimate of the error correcting term, ECM (-1). In congruent with the upshots, the model is approaching long-run equilibrium at an annual rate of 43%. Therefore, a 43% annual adjustment speed has a good chance of correcting the error from the prior year.

The adjusted R-Square (R2) value indicates that the independent variables (LBACAP, LLR, LBNPL, LCBB, LDCB & LBCB) account for 84% of the total variation in the dependent variable (LPOR). Every part of the model is interesting since the F-statistic is remarkable at the 5% level of significance. Durbin-Watson statistics of 2.225836, which is close to 2, indicate that the model would not function without serial correlation.

Table 3 shows the upshots of the model in the short term. When looking at inclusive growth in Nigeria utilising the logarithm-value of poverty (LPOR) as a proxy, we observe a favourable logarithm-value of bank asset capitalisation (LBACAP) of (+0.126897, +0.103718 & +0.105292) in

the current, previous, and subsequent year periods. This indicates that with every unit surge in the logarithm of bank asset capitalisation (LBACAP) in Nigeria, the logarithm-value of poverty (LPOR), a proxy for inclusive growth characteristics, will decrease by around 0.12% and 0.114 percent. Logarithm-value of bank asset capitalisation and poverty have a statistically substantial relationship ( $p=0.0000$ ,  $0.0004$ , and  $0.0002$ ). None of the standard economic models foretell this result. Raising the capitalisation of banks' assets should cause the logarithm-value of poverty to fall.

When we replace inclusive growth in Nigeria with the logarithm of poverty rate (LPOR) the next year, we get a favourable result of  $+0.957108$  for the logarithm of lending rate (LLR). As a measure of inclusive growth, a one-unit increase to the logarithm-value of the lending rate (LLR) in Nigeria would lead to an approximately 0.96 percent increase to the logarithm-value of the poverty rate (LPOR). There is a statistically substantial relationship between the logarithm-value of poverty and the loan rate ( $p = 0.0106$ ). Economic theory lends credence to this result. The expected result is that a higher loan rate will lead to a higher logarithm-value of poverty.

The logarithm of bank non-performing loans (LBNPL) is unfavourable ( $-0.144149$  and  $-0.155156$ ) in the most recent and following years, serving as a proxy for inclusive growth in Nigeria. Per unit increase in the logarithm-value of Nigeria's bank non-performing loans (LBNPL), the logarithm-value of poverty (LPOR), a measure of inclusive growth, would fall by about 0.15 percent. A statistically substantial link exists between the logarithm of poverty and the logarithm of non-performing loans held by banks ( $p=0.0109$ ,  $0.0173$ ). None of the standard economic models foretell this result. Given that a high ratio of non-performing loans to total loans reduces profitability and raises risk, it stands to reason that the logarithm-value of poverty would climb in tandem with the growth of non-performing loans in banks.

Applying the logarithm-value of poverty (LPOR) to the logarithm-value of commercial bank branches (LCBB) in Nigeria in the following year stands in for inclusive growth. The result is unfavourable ( $-0.555949$ ). As a result, per unit increase in the logarithm-value of commercial bank branches (LCBB) in Nigeria, the logarithm-value of poverty (LPOR), a measure of inclusive growth, would fall by almost two units. There is a statistically substantial ( $p=0.0000$ ) relationship between the logarithm of poverty and the logarithm of commercial bank branches (LCBB). This is what economists expect to happen. Since more people, especially in underserved or rural regions, will have easier access to banking services as the number of commercial bank branches (LCBB) grows, we may expect to see a decline in the logarithm-value of poverty.

When applied to the logarithm-value of deposit with commercial bank (LDCB), the logarithm-value of poverty (LPOR) is favourable ( $+0.396345$ ,  $+0.391763$  and  $+0.552391$ ) in the present, preceding, and following years in Nigeria, standing in for inclusive growth. A one-unit surge in the logarithm-value of deposits with commercial banks in Nigeria would result in a surge of around 0.40%, 0.40%, and 0.55% in the logarithm-value of poverty (LPOR), a measure of inclusive growth. Logarithms of poverty and deposits with commercial banks (LDCBs) do not correlate statistically ( $p=0.2610$ ,  $0.4066$  and  $0.1555$ , respectively). None of the standard economic models foretell this result. People in underserved or rural regions, among others, will have easier access to financial services as deposits with commercial banks (LDCBs) rise, which should lead to a decline in the logarithm-value of poverty.

In conclusion, the logarithm of commercial bank borrowers (LBCB) likewise has a favourable value of  $+0.175919$ . This is because the logarithm-value of poverty (LPOR) stands in for macroeconomic inclusive growth in Nigeria this year. A surge of one unit in the logarithm-value of borrowers from commercial banks (LBCB) in Nigeria would result in a surge of around 0.18% in the logarithm-value of poverty (LPOR), a measure of inclusive growth. The probability-value is  $0.0000$ . The correlation between the logarithm-value of poverty and commercial bank borrowers is statistically substantial. Economic theory lends credence to this result. The expected result is that when the number of borrowers from commercial banks grows, the logarithm-value of poverty also rises.

#### Diagnostic Test

Table 4: Ramsey Reset Test, Serial Correlation LM Test and Homoscedasticity Test Results

	F-Statistic	Prob-Value
Ramsey Reset Test	2.513875	0.1230

Breusch-Godfrey Serial Correlation LM Test	0.587971	0.5617
Breusch-Pagan-Godfrey Heteroskedasticity Test	1.026302	0.4666

Source: Computation carried out by author 2024

Table 4 displays the upshots of the diagnostic tests. The Ramsey Reset test for linearity yielded a probability-value of 0.1230 and an f-statistic of 2.513875, both of which are higher than the 5% (0.05) essential limit. Because of this, we know the model is well-specified and can reject the alternative hypothesis.

The Serial or Autocorrelation Test, in congruent with the Breusch-Godfrey Serial Correlation LM Test, produced an f-statistic of 0.587971 and a Chi-Square probability value of 0.5617. Model exclusion of serial correlation is supported by the fact that the probability value of 8% (0.5617) exceeds the necessary value of 56% (0.05).

Using the Breusch-Pagan-Godfrey test, the heteroscedasticity analysis yielded an f-statistic of 1.026302 and a Chi-Square probability value of 0.4666. The upshots indicate that the model does not include heteroskedasticity, since the probability Chi-square value is more than 5% ( $P > 0.05$ ). The ideal feature for regression, homoscedasticity, is characterised by residuals having a constant variance.

Model Two (Financial Reform and Economic Prosperity Model)

Table 5: ARDL Bound Test

Test Statistics	Value	K
F-statistics	2.905146	6
Significance	I (0)	1(1)
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Source: Computation carried out by author 2024

There is a long-term association between the variables, as shown in Table 2, where the F-statistic of 2.905146 is more than the critical values of the lower limit but less than the upper boundaries. We have accepted the null hypothesis and come to the conclusion that there is no correlation over the long run. What this means is that long-term economic development is unrelated to Nigeria's financial reform. Hence, the research evaluates the short-term correlation between financial reform and economic growth in the next section.

Table 6: ARDL Short-run Result (LGDP)

Variable	Co-efficient	Std. Error	t-Statistic	Prob
C	1.360386	0.274504	4.955791	0.0000
D(LBACAP)	-0.007537	0.012680	-0.594424	0.5564
D(LBACAP-1)	-0.003950	0.012804	-0.308514	0.7597
D(LBACAP(-2)	-0.017435	0.011870	-1.468863	0.1515
D(LLR)	0.087070	0.156662	0.555786	0.5822
D(LLR(-1)	0.039233	0.204430	0.191914	0.8490
D(LLR(-2)	0.155247	0.161504	0.961260	0.3436
D(LBNPL)	-0.062967	0.026030	-2.419069	0.0214
D(LBNPL(-1)	-0.010084	0.033070	-0.304932	0.7624
D(LBNPL(-2)	-0.027496	0.025581	-1.074869	0.2905
D(LCBB)	0.495450	0.205620	2.409544	0.0219
D(LCBB(-1)	-0.039419	0.266445	-0.147945	0.8833
D(LCBB(-2)	-0.352678	0.209026	-1.687244	0.1013
D(LDCB)	-0.389459	0.170239	-2.287721	0.0289
D(LDCB(-1)	0.009586	0.228818	0.041892	0.9668
D(LDCB(-2)	-0.100366	0.185302	-0.541635	0.5918
D(LBCB)	0.035503	0.080241	0.442455	0.6611
D(LBCB(-1)	0.016097	0.100534	0.160112	0.8738
D(LBCB(-2)	-0.027284	0.081117	-0.336352	0.7388

Ecm (-1)	-0.174346	0.035478	-4.914166	0.0000
Adj R2 = 0.840588, F-stat = 16.81915 (0.000000), DW = 1.526003				

Source: Computation carried out by author 2024

There is an unfavourable value and statistical significance at the 0.05 level for the co-efficient estimate of the error correcting term, ECM (-1). It implies that the model will achieve long-run equilibrium annually at a pace of 17%. Accordingly, a 17% annual adjustment speed may correct the error from the prior year.

The adjusted R-Square (R2) value indicates that the independent variables (LBACAP, LLR, LBNPL, LCBB, LDCB & LCB) account for 84% of the total variation in the dependent variable (LPOR). Every part of the model is interesting since the F-statistic is remarkable at the 5% level of significance. The model would not function in congruent with the Durbin-Watson statistics of 1.526003, which is close to 2, if serial correlation were not present.

Table 3 shows the upshots of the model in the short term. utilising the logarithm-value of gross domestic product (LGDP) as a proxy for economic success in Nigeria, the current, previous, and following year periods had an unfavourable logarithm-value of bank asset capitalisation (LBACAP) of (-0.007537, -0.003950 & -0.017435). For every unit surge in the logarithm of bank asset capitalisation (LBACAP) in Nigeria, the logarithm-value of the gross domestic product (LGDP), which is a measure of economic prosperity, would decrease by around 0.007%, 0.004%, and 0.002%, respectively. There is no statistically substantial relationship between GDP and the logarithm-value of bank asset capitalisation ( $p=0.5564$ , 0.7597, and 0.1515, respectively). A growth in bank asset capitalisation is likely to lead to a surge in the logarithm-value of gross domestic product (LGDP), which is not what economic theory predicts.

If we replace the logarithm of GDP for economic success in Nigeria the next year, we get logarithms of lending rates (LLR) with favourable values of +0.087070, +0.039233, and +0.155247. The logarithm-value of the gross domestic product (LGDP), a measure of economic prosperity, would surge by about 0.09%, 0.04%, and 0.16% if the logarithm-value of the lending rate (LLR) in Nigeria were to surge by one unit. The correlation between the loan rate and the logarithm-value of GDP is not statistically substantial ( $p = 0.5822$ , 0.8490, and 0.3436, respectively). Economic theory does not lend credence to this result. If the loan rate were to rise, the expected result would be a decline in the logarithm-value of the GDP.

Using the logarithm of bank non-performing loans (LBNPL) as a proxy for economic success in Nigeria in the most recent year, we get an unfavourable value of -0.062967 for the logarithm of gross domestic product (LGDP). The logarithm-value of GDP, a measure of economic success, would fall by about 0.07% for each unit increase in the logarithm-value of LBNPL in Nigerian banks. A statistically substantial link exists between the logarithm of gross domestic product (LGDP) and the logarithm of bank non-performing loans ( $p=0.0214$ ). This is what economists expect to happen. We expect the logarithm-value of GDP to decline as the ratio of non-performing loans to total loans will rise, which will diminish profitability and raise risk for the banking sector.

When applied to the logarithm-value of commercial bank branches (LCBB), the current year's GDP has a favourable logarithm-value of (+0.495450), which stands in for economic success in Nigeria. A one-unit surge in the logarithm-value of Nigeria's commercial bank branches (LCBB) would result in a 0.50% surge in the logarithm-value of gross domestic product (LGDP), a measure of economic success. There is a statistically substantial ( $p=0.0219$ ) relationship between the logarithm of LGDP and the logarithm of commercial bank branches (LCBB). This is what economists expect to happen. More people, especially in underserved or rural regions, will have easier access to banking services as the number of commercial bank branches (LCBB) grows, which should lead to a surge in the logarithm-value of GDP.

Applying the logarithm-value of GDP to the logarithm-value of deposits with commercial banks yields an unfavourable result of -0.389459, which stands in for economic success in Nigeria this year. Logarithmic growth of deposits at Nigeria's commercial banks (LDCBs) would lead to a 0.39% decline in the country's gross domestic product (LGDP), a measure of economic wellbeing. The statistical significance of the association between the logarithm of gross domestic product and the logarithm of deposit with commercial banks (LDCB) is  $p=0.0289$ . None of the standard economic models foretell this result. More people, especially in underserved or rural regions, will have easier

access to banking services as deposits with commercial banks (LDCBs) rise, which should lead to a surge in the logarithm-value of GDP.

Lastly, the logarithm of borrowers from commercial banks (LBCB) similarly has a favourable value of +0.035503 and +0.016097 when accounting for economic success in Nigeria during the past and present year utilising the logarithm-value of gross domestic product (LGDP). The logarithm-value of Nigeria's gross domestic product (LGDP), a measure of economic success, would grow by about 0.04% and 0.02% if the logarithm-value of borrowers from commercial banks (LBCB) in the country augmented by one unit. utilising the probability-values of 0.6611 and 0.08738 as examples. The relationship between the logarithm-value of GDP and the number of borrowers from commercial banks is statistically substantial. Economic theory lends credence to this result. If more people borrow money from commercial banks, the expected result is that the logarithm of GDP will rise.

#### Diagnostic Test

Table 7: Ramsey Reset Test, Serial Correlation LM Test and Homoscedasticity Test Results

	F-Statistic	Prob-Value
Ramsey Reset Test	0.743130	0.3953
Breusch-Godfrey Serial Correlation LM Test	1.716720	0.1968
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.702266	0.8169

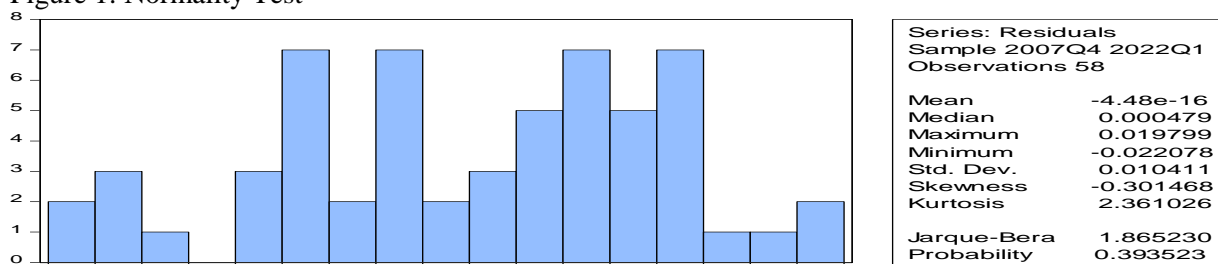
Source: Computation carried out by author 2024

Table 4 displays the upshots of the diagnostic tests. The Ramsey Reset test for linearity yielded a calculated probability-value of 0.3953 and an f-statistic of 0.743130, both of which are higher than the 5% (0.05) critical limit. Because of this, we know the model is well-specified and can reject the alternative hypothesis.

Based on the upshots of the Serial or Autocorrelation Test utilising the Breusch-Godfrey Serial Correlation LM Test, the f-statistic is 1.716720 and the Chi-Square probability value is 0.1968. The probability value of around 8% (0.1968) is more than the essential value of 20% (0.05), proving that the model does not include serial correlation.

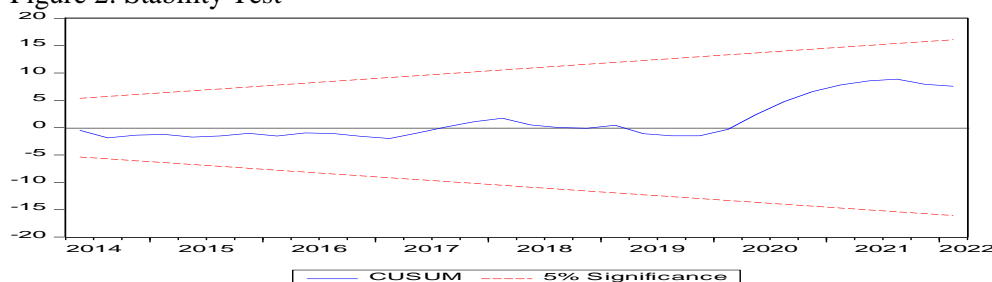
The heteroscedasticity test employed the Breusch-Pagan-Godfrey test, which yielded an f-statistic of 0.702266 and a Chi-Square probability value of 0.8169. The upshots indicate that the model does not include heteroskedasticity, since the probability Chi-square value is more than 5% ( $P > 0.05$ ). The ideal feature for regression, homoscedasticity, is characterised by residuals having a constant variance.

Figure 1: Normality Test



The normality test summarised in Figure 1 has a Jarque-Bera value of 1.865230 and a corresponding probability value of 0.393523, which is greater than the 0.05 level of significance. This suggests that the residuals are normally distributed.

Figure 2: Stability Test



The stability test upshots are summarised in Figure 2, which indicates that the model is stable. The blue line is in-between the two red lines (-5 & +5), which indicates that the level of significance is less than 0.05.

### Conclusions and Recommendations

The research found that changes in financial reform factors, such as bank asset capitalisation, lending rate, and bank non-performing loans, had a substantial impact on inclusive development and economic success. Banks that accept deposits at their branches, customers who use such branches to make loans, etc. In congruent with regression analysis, there was a favourable and statistically substantial relationship between bank asset capitalisation and lending rate and poverty, but no such relationship with GDP. Nonetheless, poverty and GDP were both unfavourably and substantially affected by banks' non-performing loans. Another interesting finding is that commercial bank branches had a weak unfavourable correlation with poverty and no correlation at all with GDP. The last point is that commercial bank borrowers substantially and favourably affected poverty but had no influence on GDP.

### Recommendations

*The CBN should keep an eye on lending practices and step up its financial inclusion activities to help prioritise agriculture and small and medium-sized enterprises (SMEs), two key sectors in reducing poverty in Nigeria. They need to team together with commercial banks to make sure people in rural regions can get the financial services they need.*

*The CBN should step up its efforts to help underprivileged communities become more financially included. In an effort to make sure that more people can afford to save and borrow money, they should work closely with commercial banks. Additionally, the central bank should ensure that interest rate fixing is transparent and take regulatory action to stop predator lending practices.*

*National planning, budget, and finance should work with other federal agencies to create microenterprises, small firms, and start-ups that get specific funding. In an effort to encourage business ownership and economic diversity, they should institute policies like loan guarantees and subsidised lending programs.*

*The CBN need to keep pushing for the opening of more commercial bank branches, especially in rural and underserved regions. Banks may assist reduce poverty by opening new branches so that more people can use their savings accounts, loans, and other banking products.*

*Prompting more responsible lending practices, protecting customers from predatory activity by financial institutions, and increasing access to banking services should be priorities for the Central Bank and Financial Regulatory Authorities.*

### Reference

- Abiola, A .B., Lawal, A. I., Adetiloye, K. A., Bede, U. A., & Akinjare, V. B. (2021). Financial sector reform and economic development in Nigeria. University of Ibadan Press.
- Ajayi, P. I., & Oburota, C. S. (2022). Assessing inclusive growth in Nigeria: An application of the social opportunity function. *African Journal of Economics and Sustainable Development*, 5(3), 104-118.
- Akakabota, E. E. (2015). Financial sector reforms and economic growth in Nigeria. *International Journal of Economics, Commerce and Management United Kingdom*, 3(9), 67 - 84.
- Akinwale, S. O. (2018). Analysis of financial sector reforms on economic growth in Nigeria. *European Journal of Business, Economics and Accountancy*, 6(4), 93 – 107.
- Akpunonu, U. E. M., Dim, E. O., Egungwu, I., & Emeka-Nwokeji, N. A. (2019). Effect of financial sector reforms on economic growth in Nigeria. <https://ssrn.com/abstract=3402435>.
- Ejura, S. B. (2022). Effects of financial sector reform on economic growth in Nigeria. *Journal of Accounting and Management Sciences*, 3(2), 216 – 229.
- Eregba, P. B., & Mesagan, E. P. (2017). The emergence of inclusive growth: Issues, challenges and policy options for Nigeria. MPRA.



- European Commission (2012). Inclusive growth in European commission. <http://ec-europa.eu/europe/2020/europe>.
- Ishioro, B. O. (2017). Banking sector reforms and economic growth: Recent evidence from a reform-bound economy. *Binus Business Review*, 8(1), 49-60.
- Iyoboyi, M., & Sabitu, A. (2020). Economic growth, unemployment and poverty: Implications for inclusive growth architecture in Nigeria. *Gusau International Journal of Management and Social Sciences*, 3(1), 79 – 90.
- Olajide, O. B., Obafemi, T A., & Jegede, C. A. (2011). The impact of financial sector reforms on banks performance in Nigeria. *The International Journal of Business and Finance Research*, 5(1), 156 – 170.
- Olanrewaju, G. O., Aremo, A. G., & Binuyo, B. O. (2020). Inclusive growth effects of institutional quality in Nigeria. *European Scientific Journal*, 16(1), 145 – 160.
- Olowofela, E. O., Adebawale, E. A., & Adejonwo, A. Q. (2018). Financial sector reforms and economic growth: Evidence from Nigeria. *Binus Business Review*, 9(2), 171-176.
- Omankhanlen, A. E. (2012). The financial reforms and their effects on the Nigerian economy. *Economy Transdisciplinary Cognition*, 15(2), 45-57.
- Organization for Economic Cooperation and Development (2014). Inclusive growth. <http://www.oecd.org>.
- Oseni, E., & Osen, E. F. (2015). Achieving inclusive economic growth and development in Nigeria through MSMEs. *Journal of Economic & Financial Studies*, 03(04), 30-40.
- Owusu, E. L., & Odhiambo, N. M. (2015). Financial sector reforms and economic growth in Ghana: A dynamic ARDL model, contemporary economics. Vizja Press.
- Toriola, K. A., George, O. E., & Ajayi, O. F. (2022). Social dimension of inclusive growth in ECOWAS: Implication for poverty reduction. *CBN Journal of Applied Statistics*, 13(1), 265-288.
- Umejiaku, R. I. (2017). Financial sector reforms in Nigeria: A chronological overview. *IJRDO-Journal of Applied Management Science*, 3(5), 98 – 108.