FINANCIAL DEEPENING AND POVERTY IN NIGERIA

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Abstract:

This paper examined the influence of financial deepening on poverty reduction in Nigeria from 1981 to 2022. To achieve the above objective, secondary data on poverty incidence, private sector credit as a ratio of GDP in %, broad money supply as a ratio of GDP in %, inflation rate and monetary policy rate were collected from the statistical bulletin published by Nigeria's central bank and bureau of statistics. The Autoregressive Distributed Lag - ARDL method was used as the main tool to analyze the data. The ARDL Bounds test showed that there is a long-term connection between the above mentioned variables. In addition, the results showed that both in the long run and short run, private sector credit as a ratio of GDP in % has a mitigating influence on poverty incidence. Meanwhile, broad money supply as a ratio of GDP in % has a detrimental influence on poverty incidence, although significant in the short run. Regarding the control variables, this study discovered in the short run a significant positive influence of monetary policy rate and inflation rate on poverty incidence in Nigeria during the period of study. The result indicated that inflation and high monetary policy rate are consistently detrimental for the poor. But in the long run, monetary policy rate has a significant positive relationship with poverty incidence. However, inflation rate has a significant negative relationship with poverty incidence. The estimation suggested that financial deepening has a potential to reduce poverty in Nigeria. That is, if financial deepening is well pursued, it will contribute to the reduction in poverty incidence in Nigeria. Therefore, this study recommended the need to foster an expansion in credit to the private sector to reduce poverty in Nigeria. The government should start working on policies that will help make the financial system stronger and create new financial reforms. These policies should help improve the quality of life of people in Nigeria in a fair and meaningful way.

Keywords: financial deepening, poverty incidence, ARDL and Nigeria

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1. Introduction

Improved access to financial services has always been linked to economic progress and reduction of poverty. When financial systems become deeper, they help resources flow better and encourage more investment, which supports economic growth and lowers poverty over time. In theory, when people and businesses can use financial services, they can make better investments, manage risks, and improve their overall well-being (Shaw, 1973; McKinnon, 1973; Obunike-Ezeuli, Ifionu, & Omojefe, 2023). In Nigeria, financial deepening can help reduce poverty through several connected ways. One key way is by improving access to credit, which allows households and small businesses to invest in useful projects, grow their income activities, and manage expenses when income is low. When banks and financial institutions offer loans to those who are often left out, it gives poor people the chance to start businesses, buy farming tools, and increase their productivity, making them less likely to remain in poverty (Beck, Demirguc-Kunt, & Levine, 2007; Akinboade, & Kinfack, 2013; CBN, 2023).

Financial deepening helps people access more types of safe and affordable savings options. This lets families save money, handle unexpected problems, and build up their wealth. In Nigeria, digital banking and branchless banking have made it easier for people in rural areas and those with lower incomes to save money. This improves their ability to deal with financial difficulties and lowers the chances of falling into poverty (Dupas & Robinson, 2013; EFInA, 2020). Also, financial deepening helps people invest in their children's education and health care. When families can get loans, they are more likely to send their kids to school and get proper medical care. This leads to better future opportunities and helps break the cycle of poverty across generations (Banerjee & Duflo, 2011). On a larger scale, financial deepening supports economic growth by helping resources move to where they are needed most, encouraging businesses to invest, and promoting new ideas. As the economy grows, more jobs are created and incomes rise, which helps reduce poverty if these benefits are shared widely (Levine, 2005; Ndebbio, 2004; Odhiambo, 2010).

In recent years, the apex bank in Nigeria has worked on changes in the financial sector to help more people get involved, like the 2012 National Financial Inclusion Strategy, growing mobile banking services, and making microfinance institutions stronger (Abili, 2020; CBN, 2023). Although it's thought that deeper financial systems can help reduce poverty, it is not clear how much this is actually working in Nigeria. Aggregate indicators such as the ratio of broad money supply to GDP and ratio of private sector credit to GDP suggest some level of deepening, yet rural households and the poor continue to face severe exclusion from affordable credit and reliable savings mechanisms (World Bank, 2023).

Also, banks in Nigeria still give more loans to big companies, leaving small and medium businesses, which are important for jobs creation and poverty reduction, with less support (Beck, Demirguc-Kunt, & Levine, 2007). At the same time, financial institutions continue to impose stringent collateral requirements and charge high interest rates, which make it hard for poor people to get loans (Nwogwugwu, & Aja, 2019). It's

important to note that if financial markets grow without fixing problems like high costs and difficulty in accessing services, the benefits of financial development may disproportionately accrue to individuals and firms already integrated into the financial system. This creates a problem where financial growth happens at the same time as more people are poor, signaling a weak link between financial sector development and welfare outcomes in Nigeria.

The issue of poverty in Nigeria is a big concern, especially since the country has a lot of natural resources. In the country, more people are living in poverty. For example, in 1980, poverty incidence remained at 27.2%, but this increased to 46.3% by 1985. It slightly decreased to 42.7% in 1992, then went up quickly to 65.6% in 1996 and further to 69% in 2010 (National Bureau of Statistics, 2010 and World Bank, 2011). The 2020 report from the National Bureau of Statistics (NBS) says that around 83 million people, or 40 percent of the total population, live below the poverty line, which is set at ₦137,430 ($381.75) per year (NBS, 2020).

This situation shows a strange situation where financial systems are becoming more developed, yet poverty remains widespread. This raises important questions about how effective financial deepening is in helping to reduce poverty. It also shows the need to carefully examine whether financial deepening in Nigeria actually helps the poor or if it just reflects the growth of formal financial systems without real benefits for those in poverty. Many studies have looked into the effectiveness of financial deepening in the past, but most have focused on economic growth rather than poverty. Therefore, this study sought to investigate the connection between financial deepening and poverty reduction in Nigeria from 1981 to 2022. The paper is divided into five parts: introduction, literature review, materials and methods, results and discussion, and conclusion along with recommendations.

2. Literature Review

2.1 Conceptual Clarification
2.1.1 Financial Deepening and Poverty
Financial deepening refers to the expansion and sophistication of financial markets, institutions, and instruments, often measured by indicators such as the ratio of broad money supply to GDP and ratio of private sector credit to GDP (Shaw, 1973). In simpler terms, it means that more and better financial services are available to people at all levels of society. This process makes financial systems more developed, efficient, and easier to use. Financial deepening helps the economy grow by helping people save and invest in useful projects. It also helps reduce poverty by giving poor people access to loans and insurance. It makes sure that more families and businesses have chances to improve their situation.

Furthermore, financial deepening can help reduce poverty through several ways. One is by making it easier for people to get loans, which helps them start businesses or invest in things that can bring in more money. This can create jobs and increase income, which helps reduce poverty. Another way is by offering safe places to save money, so

poor families can build up their wealth and deal with unexpected problems like illness or bad harvests. Also, new financial tools like insurance, mobile money, and small loans help people manage risks that could push them into deeper poverty. When families can access loans, they can pay for school or medical bills, helping break the cycle of poverty that affects generations.

However, financial deepening may not automatically reduce poverty because of the exclusion of the poor - financial deepening often benefits urban and formal-sector participants first, while rural households and the informal sector remain excluded. Banks may channel credit to large firms or elites, with little trickle-down effect on the poor. Poor households accessing high-interest microloans may face debt traps rather than poverty reduction. Therefore, financial deepening can reduce poverty if it expands inclusive access to affordable credit, savings, and insurance. Nevertheless, without targeted policies, it may simply strengthen the financial system without significant benefits for the poor. That is, minus the right policies, financial deepening will not help to reduce poverty.

In most definitions of poverty, the main difference is money. So, generally, poverty is when someone doesn't have enough money to buy the basic things they need to live (George-Anokwuru & Inimino, 2024). According to Umo (2012), poverty can be understood in two main ways: absolute or relative. Absolute poverty happens when a person doesn't have enough money to afford the basic things in life, like food, a place to live, clothes, and basic education, among other things. This kind of poverty is sometimes called abject poverty. Todaro and Smith (2011) explain that absolute poverty is when people can't meet their basic needs or can only barely do so, such as getting enough food, clothes, and shelter. When talking about absolute poverty, it's about comparing a person's yearly income to a certain poverty line or standard that is set for individuals or groups. The poverty line is the lowest amount of money someone needs to cover their basic needs and stay alive. It's important to know that economic development plans aim to end absolute poverty, which happens when people don't have enough resources to survive. We can work on solving the main reasons behind basic needs not being met. That's why the United Nations' Sustainable Development Goals (SDGs), especially Goals 1 and 10, are focused on ending poverty in all its forms and making sure everyone has a fair chance in life by 2030.

In relative terms, Gbosi (2012), Gbosi (2015) and Umo (2012) say some families are poor compared to others. They also explain that poverty is not about not having enough money to live a good life, only. It includes things like not having enough to eat, not getting a proper education, not having access to important services, being treated unfairly, and not being allowed to make decisions that affect their lives. Therefore, poverty is not defined only in terms of income deprivation but also vulnerability to shocks, lack of access to productive resources, and social exclusion (NBS, 2022). Poverty has bad influence on the economy. Poor families often can't afford healthy food, safe homes, proper clothes, good education, or good medical care.

In recent years, crime has gone up along with poverty. Violent crimes, like robberies and kidnapping during the day, are now common in many cities across the

country. In Nigeria, many people without jobs turn to stealing or other illegal activities because of poverty (George-Anokwuru & Inimino, 2024). According to Umo (2012), extreme poverty causes hunger and anger. When these feelings happen to many people at the same time, it can lead to conflicts. These conflicts are rarely fixed permanently unless we deal with the real problems causing them. From time to time, conflicts have broken out in different parts of Nigeria, which slows down progress and development. The relationship between financial deepening and poverty reduction is rooted in the idea that well-developed financial systems mobilize savings, lower transaction costs, and improve resource allocation, which in turn will reduce poverty.

3. Theoretical Framework

Attempts to explain how and why financial systems evolve to become more inclusive, efficient, and sophisticated over time and how this transformation affects poverty are sometimes referred to as theories of financial deepening. Therefore, this study examined the financial repression and supply-leading theories of financial deepening.

3.1 Financial Repression Theory

Financial repression theory, introduced by McKinnon (1973) and Shaw (1973), looks at how government rules on financial markets can slow down economic growth. The idea is that policies like setting interest rates too low, requiring banks to keep too much money in reserve, and directing loans to specific areas can stop the financial system from working efficiently. In countries like Nigeria, these rules lower savings, make credit harder to get, and stop money from going to where it's needed most. This leads to slower business growth, less investment, and continued poverty. It's important to understand this theory to see how Nigeria's financial system affects the poor.

One key part of financial repression is setting interest rates too low. When the government fixes rates below what the market would normally set, it makes it cheaper for some businesses to borrow money. But it also makes people less willing to save, because they don't get a good return on their money. Saving less means there's less money available for loans, which hurts private businesses and limits job creation for poor people. In Nigeria, long periods of interest rate controls have made financial markets shallow, led to low savings, and stopped financial growth (McKinnon, 1973; Shaw, 1973; Beck & Honohan, 2010).

Another part of financial repression is making banks keep a lot of their deposits as reserves. This means banks have less money to lend out. As a result, people and small businesses, especially those without credit history or collateral, find it hard to get loans. This keeps the poor out of the financial system and forces them to use expensive, informal lending options. In Nigeria, high cash reserve ratios and strict rules have limited credit for productive businesses, making inequality worse and poverty stick around (Nwogwugwu & Aja, 2019; EFInA, 2020). Directed credit policies and government borrowing also show how financial repression hurts the economy.

In Nigeria, the government has often directed loans to specific sectors at lower rates, and has also borrowed a lot from domestic banks. While this was meant to boost certain areas, it often takes money away from private businesses and poor households. This makes it harder for small businesses and low-income families to get loans, which slows down financial growth and makes poverty harder to overcome. The strict rules on collateral and high loan rates for the poor show how money isn't being used the way it should be (Beck, Demirguc-Kunt, & Levine, 2007; Nwogwugwu & Aja, 2019).

Financial repression also influences poverty by affecting how well financial markets work and how new ideas are introduced. When there are strict rules, financial institutions can't offer a wide range of products, reach people in rural areas, or use new technologies like mobile banking and digital payments. This limits the growth of financial services, the rise of financial assets, and the inclusion of people who were left out before. In Nigeria, the lack of good financial services in rural areas and among the poor is partly because of past financial repression. This has made it hard for people to get credit, insurance, and savings options that could help them escape poverty (Levine, 2005; EFInA, 2020).

The theory also shows how financial repression connects to economic growth, which is important for reducing poverty. When financial markets are weak, people save less, invest less, and accumulate less capital, all of which slow down economic growth. In Nigeria, slow development in the financial sector has led to fewer jobs and slower growth in household income. As a result, the poor stay in poverty because the financial system isn't helping move resources to productive uses (Odhiambo, 2010; Beck et al., 2007).

In conclusion, dealing with financial repression is vital for improving financial growth and cutting down poverty in Nigeria. Changes like letting interest rates be set freely, lowering reserve requirements, using digital finance, and giving more credit to low-income groups can help reduce the bad effects of repression. These steps can make the financial system more inclusive and efficient, helping people save more, invest in small businesses and farming, and earn more money. Removing financial repression helps financial growth become a key way to reduce poverty (McKinnon, 1973; Shaw, 1973; Beck & Honohan, 2010).

3.2 Supply-Leading Hypothesis

This idea suggests that financial development happens first and helps drive real economic growth, not just follow it. This theory was first introduced by scholars like Patrick in 1966 and later supported by more research. It says that when there are more financial institutions, tools, and credit options, it encourages more investment and economic activity. Basically, a strong financial system can help gather savings, use resources better, and support new businesses, which in turn leads to economic growth and reduces poverty. In Nigeria, where many people don't have access to financial services, this theory supports the idea of improving financial systems as a key part of development.

A main part of this approach is how financial institutions help collect savings from individuals and businesses. Banks, microfinance organizations, and other financial middlemen bring these savings together and make them available for investments. By directing these savings into areas like farming, small businesses, and manufacturing, financial institutions can boost economic activity which leads to jobs and higher incomes for poor people. In Nigeria, people have had trouble accessing formal financial institutions in the past, which limited how much savings could be collected. To fix this, policies like mobile banking, agency banking, and microfinance are being used, which are practical examples of the supply-leading approach (Beck, Demirguc-Kunt, & Levine, 2007; EFInA, 2020).

The supply-leading hypothesis also highlights how having credit available is important for investment and lifting people out of poverty. When financial institutions provide credit efficiently, households and businesses can start or grow projects they wouldn't be able to without that support. In Nigeria, farmers and low-income entrepreneurs often face challenges like high interest rates and strict requirements for borrowing. Expanding access to credit through formal financial institutions can help reduce poverty by increasing income, improving productivity, and helping people move up in society. Studies in Nigeria and other developing countries show that areas with better access to financial services tend to grow faster and see less poverty, which matches the supply-leading hypothesis (Nwogwugwu & Aja, 2019; Levine, 2005).

Another way the supply-leading hypothesis works is through managing risks. Financial deepening gives households and businesses tools to handle financial risks, such as insurance, savings accounts, and credit options. These tools help poor families keep their spending steady, protect themselves from unexpected problems, and take chances on useful opportunities without worrying about big losses. In Nigeria, limited financial deepening has made it hard for people to get these tools, leaving them at risk of staying poor. By growing financial services and making the financial system stronger, the supply-leading hypothesis suggests that these risks can be lower, which helps the economy become more stable and reduces poverty (Banerjee & Duflo, 2011; Beck & Honohan, 2010).

Under the supply-leading idea, financial deepening also helps more people start businesses and grow the private sector. When businesses have access to money, they can buy equipment, use better technology, and train workers, making their work more efficient and creating jobs. In Nigeria, where many people are unemployed or underemployed, financial deepening based on the supply-leading idea can help people escape poverty. By encouraging private investment and new ideas, financial institutions can help change the economy in a positive way, which matches what the supply-leading hypothesis predicts (Odhiambo, 2010; Ndebbio, 2004).

In summary, the supply-leading hypothesis connects financial development with long-term economic growth and poverty reduction. A strong and efficient financial system helps distribute resources better, brings more savings from people, encourages spending on useful projects, and supports activities that create value. In Nigeria, areas and industries that have better access to financial services show faster economic growth

and less poverty, showing how important the supply-leading approach is. By focusing on financial deepening through policies that make credit, savings, and financial services more available, Nigeria can use the benefits of financial development to help reduce poverty and improve the lives of low-income families (Levine, 2005; Beck et al., 2007).

3.3 Structural/Economic Theory of Poverty

This theory says that poverty is mostly caused by how the economy is structured. Many social democratic thinkers believe that poverty happens because of how the labor market works in capitalist countries. They say that most people who are poor either don't work at all, like the unemployed, retirees, or people who can't work due to illness or disability, or they are in weak positions and end up with low-paying, temporary, and unstable jobs. These jobs are often held by people with few skills or those who face discrimination, such as women, Black people, and people with disabilities. So, factors that cause poverty include how many people are working and how income is shared across the country (Tubotamuno, Inimino, and Awortu, 2018). This idea was advanced by Townsend (1979), Townsend, Corrigan, and Kowarzik (1987). Townsend linked poverty to class. Many poor people do jobs that don't require special skills, or they have done similar jobs in the past. So, poverty is not because people aren't trying hard enough, but because they don't have good job opportunities. People become poor because the economic system doesn't give them a fair share of wealth and there is unequal income distribution (George-Anokwuru & Inimino, 2024). It is the responsibility of the government to start policies that help reduce poverty in the country. Therefore, if the government starts policies that increase access to financial services with more options for different groups in society, employment will be created, which in turn will reduce poverty. In other words, government policies that deepen the financial system like making financial markets, institutions, and tools more developed, efficient, and accessible will help create jobs and reduce poverty.

3.4 Empirical Review

Undoubtedly, several studies have investigated the influence of financial deepening on poverty reduction across different economies with miscellaneous techniques. For example, Raju and Yifei (2011) used a quantitative approach to examine how financial deepening, property rights, and poverty are connected in 37 countries in sub-Saharan Africa between 1992 and 2006. Their research found that financial deepening can help lower income inequality and reduce poverty, and that having stronger property rights make these positive affects more significant. However, just lowering interest rates and making loans easier can actually hurt the poor if there are no institutional changes, especially if there are better property rights and more access to information about creditors.

Jeanneney and Kpodar (2011) used an Autoregressive Distributed Lag (ARDL) model to study how financial development can help reduce poverty. They looked at two ways: one is the McKinnon conduit effect, where better finance helps poor people directly by making transactions easier and giving them savings options. The other is by helping

the economy grow, which can reduce poverty indirectly. Using data from developing countries between 1966 and 2000, they found that poor people do benefit from a well-functioning banking system. However, they don't always get the full benefits of having more credit access. Also, financial development can sometimes cause instability, which can hurt the poor instead. The instrument of ordinary least squares was applied by Dabwor and Abimiku (2016) to look at poverty in Nigeria and ask whether financial deepening makes a difference. They discovered poverty as a big problem in the country, but financial inclusion helps include more people in the financial system and can lower poverty levels.

Chinweze (2017) used an Error Correction Model to examine how the deepening of the financial system influences the reduction of poverty in Nigeria. They relied on the Human Development Index as a way to measure poverty reduction because it covers many different aspects of life. To show how the financial system is growing, they looked at ratios such as credit given to businesses and people, the total amount of money in the economy, and the value of stocks compared to the country's total economic output. The findings showed that when the financial system grows, it can help lower poverty in Nigeria.

Furthermore, Ozigbu and Ezekwe (2020) looked at how the growth of the financial system in Nigeria has influenced economic development from 1981 to 2018. They focused on how this growth helped reduce poverty and income inequality. They used an Autoregressive Distributed Lag (ARDL) model for their analysis. Their results showed that the amount of money in the economy compared to the size of the economy had a strong negative influence on income inequality and poverty in the short term. The same was true in the long term. However, credit provided to the private sector didn't have a significant effect on poverty or income inequality in either the short or long run. They also found that a higher real interest rate had a positive effect on reducing poverty.

In addition, Adeleye, Nathaniel, Ogunrinola and Ikuemonisan (2021) analyzed how financial growth affected income inequality in Nigeria from 1980 to 2015. They used an error correction method with the ARDL model. Their findings showed that in the long run, financial growth and income per person both helped reduce income inequality. This equalizing effect was seen around the time of a major change in the data. Surprisingly, in the short run, financial growth actually increased inequality. The results were consistent regardless of how financial growth was measured, when the break points were, or how the model was structured. They suggested that income inequality is influenced by financial growth and per capita income, and not considering changes in trends could lead to wrong conclusions when deciding how to reduce inequality.

However, Ilori (2022) studied how financial sector development affected poverty from 1988 to 2017 using Ordinary Least Squares. Their results showed that financial sector development had a positive and significant effect on poverty as measured by the Human Development Index (HDI). They found that total credit had a significant positive effect on HDI. However, total deposits had a negative effect on HDI.

Ilo, Elumah and Adelowokan (2022) looked at how financial development helped reduce poverty in Nigeria from 1981 to 2020. They found that while access to credit and

financial growth helped reduce poverty, the effect wasn't strong enough to cause major changes. On the other hand, the development of the capital market, seen through the growth in market value and shareholder wealth, was more effective in reducing poverty. Using Granger causality and Ordinary Least Squares (OLS), Bakare (2022) studied the impact of financial growth on poverty reduction in Nigeria from 1999 to 2019. Their OLS results showed a positive and significant relationship between financial growth and reductions in poverty and unemployment. The Granger Causality Test found that providing credit to the private sector caused improvements in national development. The study concluded that if financial growth is properly pursued, it can help reduce poverty and improve people's well-being. It argued that more access to financial services leads to better living standards.

Similarly, Ejemezu, Nwambeke, Oko, and Ibe (2023) examined the effect of financial growth on poverty in Nigeria from 1986 to 2020 using Ordinary Least Squares. They found that the amount of money in the economy compared to GDP had a significant positive effect on poverty reduction. However, the amount of credit given to the private sector compared to GDP had a negative effect on poverty reduction. The study concluded that financial growth can help reduce poverty in Nigeria if the government is serious about fighting poverty. In the same year (i.e., 2023), Obunike-Ezeuli, Ifionu and Omojefe applied an Autoregressive Distributed Lag (ARDL) model to study the connection between financial growth and poverty reduction in Nigeria covering 1994 to 2022. Their results showed that financial growth has the potential to reduce poverty in Nigeria.

In summary, some empirical works by scholars, including Chinweze (2017); as well as Ejemezu, Nwambeke, Oko and Ibe (2023), revealed that financial deepening helps reduce poverty. On the other hand, the study by Ilori (2022) showed that financial sector development exacerbated poverty. This situation brings up an important question: what is the association between financial deepening and poverty in Nigeria? This question needs to be answered, and that was the main goal of this study. Interestingly, none of the previous studies investigated how variables of financial deepening (M$_3$/GDP - broad money supply as a ratio of GDP in %, and CPS/GDP - private sector credit as a ratio of GDP in %) have influenced the incidence of poverty in Nigeria from 1981 to 2022. Therefore, this paper is unique as it differs from other studies.

3.5 Stylized Issues on Indicators of Financial Developments in Nigeria

In 2011, the financial situation had both good and bad parts. The ratio of broad money supply, known as M2, compared to the total value of goods and services in the economy without accounting for inflation, called nominal GDP, was 36.4 percent. This was lower than the 39.5 percent recorded at the end of 2010. The total amount of money available in the money market went up by 24.7 percent by the end of 2011. This increase was mainly because the value of government bonds, treasury bills, and commercial papers rose. The interest rates on fixed income investments, like government bonds and treasury bills, were higher in 2011 than in 2010. Most of the year, the yield curve was normal, but it turned upside down towards the end of the year. This change showed that the Central

Bank of Nigeria was being very strict with its monetary policies in 2011. The activities on the Nigerian Stock Exchange showed a mix of performance (CBN, 2011).

In 2013, the financial development indicators showed mixed results. The ratio of broad money supply to nominal GDP dropped slightly to 19.3 percent, compared to the end of 2012. The banking system's ability to provide financing, measured by the ratio of claims on the private sector to GDP (CP/GDP), was 20.4 percent, down from 20.9 percent in the previous year. The total values of money market assets increased by 10.0 percent, mainly because of higher amounts of Nigerian treasury bills, bankers' acceptances, commercial papers, and bonds of the federal government of Nigeria. The returns on fixed-income securities were lower in 2013. Also, most money market rates were lower than the previous year, showing that there was more money flowing into the banking system. The Nigerian stock exchange performed well, with major indicators showing upward trends (CBN, 2013).

In 2014, the financial developments showed a mix of good and bad results. The efficiency of financial intermediation, measured by the ratio of currency outside banks to M2, improved from 9.2 per cent to 7.6 per cent compared to the previous year. The ratio of broad money supply to nominal GDP was 21.0 per cent, which is 1.7 percentage points higher than the end of 2013. The banking system's ability to provide finance, measured by the ratio of claims on the private sector to GDP (CPS/GDP), was 20.1 per cent, slightly up from 20.0 per cent the year before. The total amount of money market assets increased by 12.4 per cent, mainly because of higher amounts of Nigerian Treasury Bills, bankers' acceptances, commercial paper, and FGN Bonds. The yields on fixed income securities were higher in 2014, mostly due to the Bank's tight monetary policy and excess liquidity, which slowed market trading. Most money market rates stayed about the same for the first ten months of the year, but they went up towards the end as the benchmark interest rate increased by 100 basis points to 13.0 per cent. The Nigerian Stock Exchange had a bad year, with most key indicators going down (CBN, 2014).

In 2015, the signs for financial growth were a mix of good and bad by the end of the year. The financial sector's importance, shown by the ratio of broad money to GDP, stayed the same at 21.0 per cent as it was in 2014. The banking system's ability to provide loans improved a little, as the credit-GDP ratio went up to 22.7 per cent from 21.4 per cent in 2014. However, the amount of credit given to private companies as a share of GDP dropped slightly to 19.7 per cent from 20.1 per cent in 2014. This was because there was a big increase in debt owed to the federal government, which used up credit that would have gone to private businesses. The efficiency of financial institutions, measured by how much cash outside banks there was compared to the total money supply, improved a little to 7.3 per cent from 7.6 per cent at the end of 2014. But overall savings in the financial system went down. The total value of money market assets rose by 22.1 per cent, mainly because of higher amounts of Bankers' Acceptances, Certificates of Deposit, and Federal Government Bonds. On the Nigerian Stock Exchange, performance was mixed in 2015. The total value of shares listed on the exchange increased by just 0.8 per cent, while the All Share Index, total trading volume, and the value of shares traded were all lower than the previous year (CBN, 2015).

In 2016, the financial sector had a mixed performance. There was some improvement, with the ratio of M2 to GDP rising to 23.1 percent, up from 21.3 percent at the end of 2015. The banking system's ability to support economic activities improved slightly, as the credit to GDP ratio reached 26.7 percent, compared to 23.0 percent at the end of 2015. The credit provided to the core private sector also increased, reaching 21.2 percent of GDP, up from 19.2 percent at the end of 2015. However, the efficiency of the financial system declined, as the COB to M2 ratio dropped to 7.8 percent and the COB to GDP ratio fell to 1.8 percent, compared to 7.3 and 1.6 percent in 2015. Even though total savings, including quasi money, rose slightly from the end of December 2015, their share in GDP remained at 12.13 percent, slightly lower than the 12.17 percent recorded at the end of 2015. Foreign currency deposits made up a large portion of savings, reaching 4.5 percent of GDP, compared to 4.0 percent at the end of 2015. The total money market assets increased by 35.5 percent from the end of 2015, largely due to higher amounts of treasury bills and government bonds outstanding. The Nigerian Stock Exchange saw a decline in activity during the year. The total market value of listed securities and the All Share Index both dropped by 4.8 percent and 6.2 percent, respectively. While the volume of securities traded increased slightly by 3.2 percent compared to the previous year, the total value of traded securities fell sharply by 39.6 percent (CBN, 2016).

In 2017, the financial sector showed a general downward trend. The ratio of M2 to GDP dropped to 20.3 per cent, which is lower than the 23.2 per cent recorded at the end of December 2016. The banking system's ability to support economic activities, measured by the aggregate credit to GDP ratio, fell to 23.3 per cent from 26.5 per cent at the end of December 2016. The credit given to the private sector as a share of GDP also decreased to 19.2 per cent, down from 21.7 per cent at the end of 2016. However, the efficiency of the financial system improved, as the COB/M2 ratio dropped to 7.1 per cent from 7.7 per cent in 2016. The total amount of money market assets fell by 61.1 per cent compared to the end of 2016, mainly because the amounts of Nigerian Treasury bills and FGN Bonds went down. The Nigerian Stock Exchange had a strong year in 2017, with most market indices increasing. The total market capitalisation of listed securities and the All-Share Index both rose by 41.6 per cent and 42.3 per cent, respectively. Also, the total volume and value of securities traded went up by 4.7 per cent and 121.7 per cent compared to the previous year (CBN, 2017).

In 2018, the financial sector showed mixed results. The banking sector became more important, with the ratio of M3 to GDP increasing to 26.2%, which is 0.9 percentage points higher than at the end of 2017. Financial savings also went up during the year. The efficiency of financial intermediation improved, as seen in the ratio of currency outside banks to broad money supply, which dropped to 5.7% from 6.2% at the end of 2017. However, the conditions for getting financing worsened, as the ratio of total credit to GDP fell to 21.6% from 22.8% in 2017. The credit given to the private sector also dropped, going from 19.6% to 17.8%. The ratio of banking system assets to GDP decreased to 42.6% from 45.2% at the end of 2017. The total amount of money market assets also dropped by 1.9% compared to the end of 2017, mainly because of lower amounts of bankers' acceptances and Nigerian treasury bills. The structure of the Nigerian banking sector

stayed the same, with 27 licensed banks as in the previous year. The Nigerian Stock Exchange had a tough year in 2018, with most market indices going down. The total market capitalization of listed securities and the All-Share Index both fell by 41.6% and 42.3%, respectively. The volume of trades increased slightly by 0.8%, but the value of securities traded dropped by 6.2% (CBN, 2018).

In 2019, the performance of the financial sector showed some mixed results. The banking sector's importance, measured by the ratio of M3 to GDP, decreased slightly to 24.1%, compared to 25.8% at the end of December 2018. There was also a small drop in financial savings, as the ratio of quasi-money to GDP fell to 16.8%, from 17.5% in 2018. However, there was a small improvement in how efficiently the financial system intermediates, measured by the ratio of currency outside banks to the broad money supply, which increased to 5.82% from 5.7% at the end of 2018. The banking system's ability to support the economy improved, as the ratio of domestic claims to GDP rose to 25.1%, up from 22.3% in 2018. The share of private sector credit to GDP also went up slightly to 18.5%, from 18.4% in 2018. Interest rates followed the liquidity conditions in the money market and were generally lower than in 2018. The value of money market assets increased by 6.2% during the review period. The number of licensed banks rose to 29 in 2019. In the Nigerian capital market, the performance was mixed in 2019. The stock market ended the year on a positive note, but the NSE All-Share Index had a negative return. The total volume and value of securities traded dropped by 20.8% and 19.7%, respectively (CBN, 2019).

In 2021, the financial sector remained strong, according to important data. The total amount saved kept increasing, which is shown by the higher ratio of other deposits (OD) to GDP, rising to 14.8 percent from 14.4 percent in 2020. The ratio of the banking system's assets to GDP stayed the same at 67.3 percent, showing that the size of the financial sector remained stable. The ratio of claims on the other sector (COS) to GDP and claims on the private sector (CPS) to GDP went up to 20.3 percent and 13.8 percent, compared to 19.6 percent and 12.3 percent in 2020. This increase followed ongoing efforts to provide credit support to the domestic economy. However, a measure of how effectively the financial system is working, known as the ratio of currency outside banks (COB) to broad money supply, slightly declined to 6.7 percent from 6.6 percent at the end of December 2020 (CBN, 2021).

In 2022, the financial sector remained strong, as shown by important data. Overall savings continued to grow, which is seen in the higher ratio of 'other' deposits (OD) to GDP, reaching 15.6 percent compared to 15.2 percent in 2021. The ratio of the banking system's assets to GDP also increased to 71.4 percent, showing that the financial sector is still strong and healthy (CBN, 2022).

3.6 Stylized Issues on Poverty in Nigeria

Poverty remains a serious problem in Nigeria, and it has been getting worse over the years. For example, the share of people living in poverty rose from 27.2% in 1980 to 46.3% by 1985. It dropped a little to 42.7% in 1992 but then quickly went up to 65.6% in 1996. By 2010, the number had gone even higher to 69.0% (National Bureau of Statistics, 2010 and

World Bank, 2011). According to data from the National Bureau of Statistics and the World Bank, this shows a continuing increase. A more recent report from the National Bureau of Statistics in 2020 said that 40 percent of Nigeria's population, which is about 83 million people, live below the country's poverty line of ₦137,430 per year. That is roughly equal to $381.75 (NBS, 2020). Research by Williams in 2016 also showed that rural areas in Nigeria are the most affected by poverty. In 1980, urban poverty was at 17.2%, but this rose to 37.8% by 1985, then stayed at 37.5% in 1992, and increased to 58.2% in 1996. Meanwhile, rural poverty started at 28.3% in 1980, jumped to 51.4% in 1985, dropped slightly to 46% in 1992, and then spiked to 69.8% in 1996 (NBS, 2005). In 2019, the poverty rate was reported to be 18% in urban areas and 52.1% in rural areas by the National Bureau of Statistics (2020). The increase in poverty can be attributed to years of neglect in rural regions, particularly in terms of infrastructure development, and also due to a lack of information about how the government operates. Many people in rural Nigeria earn a living through farming or other trades such as carpentry and tailoring. However, they often lack access to quality healthcare. They usually own small plots of land, use outdated farming equipment, and frequently face food shortages before the harvest season. During this time, they don't have enough food, which makes them more vulnerable to illness and debt. Their homes are often poor-quality and overcrowded, and they can't afford proper education for their children, as noted by Williams (2016). In addition, poverty has led some individuals to resort to unsustainable practices such as deforestation, overfishing, and overhunting, which make the environment less viable for future generations. Furthermore, poverty can have a deep emotional impact on people, stripping them of their sense of self-worth and dignity. When individuals feel that their lives are not valued, they may even consider ending their own lives, as highlighted by Gbosi (2012 & 2015).

4. Materials and Methods

The study used an ex-post facto research design. The study used data from 1981 to 2022 for analysis. The researcher really wanted to use data from 1960 to 2024, but there wasn't enough information available. So the researcher had to use the data that was available, from 1981 to 2022. The data came from a report by Nigeria's main bank and the bureau of statistics. To look closely at how financial deepening affects poverty reduction in Nigeria, the study modified a model developed by Ozigbu and Ezekwe in 2020. Their model looked at how deepening the financial system helped economic development between 1981 and 2018, especially in reducing poverty. In their model, poverty headcount and income inequality were what they were trying to measure, and they used broad money supply as a ratio of GDP, private sector credit as a ratio of GDP, and interest rate as the factors that might influence these outcomes. This study replaced poverty headcount and income inequality with poverty incidence and included the inflation rate in the model. Therefore, the model for this study is presented thus:

$$POV_t = \alpha_0 + \alpha_1 M_3/GDP_t + \alpha_2 CPS/GDP_t + \alpha_3 MPR + \alpha_4 INF + e_t \qquad (1)$$

Where:

POV is poverty incidence (in %),

M_3/GDP = broad money supply as a ratio of GDP in %,

CPS/GDP = private sector credit as a ratio of GDP in %,

MPR = Monetary Policy Rate – interest rate (in %),

INF = Inflation Rate (in %),

α_0 = intercept parameter, e = error term, $\alpha_1 - \alpha_4$ = slope parameters.

On the apriori, it is expected that; $\alpha_1 - \alpha_2 < 0$; and α_3 and $\alpha_4 > 0$.

4.1 Techniques of Data Analysis

The methods used to study the data include the Augmented Dickey Fuller test (ADF) and the Autoregressive Distributed Lag (ARDL) approach. The ADF test helps determine if the data is stationary, which means it doesn't change over time in a way that affects results. The general formula for the ADF test is:

$$\Delta y_t = \alpha_0 + \alpha_1 y_{t-1} + \Sigma \alpha_1 \Delta y_i + \delta_t + U_t \tag{2}$$

Where:

y is a time series,

t is a linear time trend,

Δ is the first difference operator,

α_0 is a constant,

n is the optimum number of lags in the independent variables, and

U is a random error term.

To look at both short-term and long-term relationships between financial deepening and poverty incidence, the study employed the Autoregressive Distributed Lag – ARDL method. This method helps avoid issues like autocorrelation and endogeneity, giving unbiased and efficient results. The ARDL model used in this study is as follows:

$$
\begin{aligned}
\Delta POV_{t,j} = {} & C_0 + C_1 POV_{t-1,j} + C_2 CPS/GDP_{t-1,j} + C_3 M3/GDP_{t-1,j} + C_4 MPR_{t-1,j} \\
& + C_5 INF_{t-1,j} + \sum_{i=1}^{n1} a_{1i,j} \Delta POV_{t-1,j} + \sum_{i=0}^{n2} a_{2i,j} \Delta CPS/GDP_{t-1,j} \\
& + \sum_{i=0}^{n3} a_{3i,j} \Delta M3/GDP_{t-1,j} + \sum_{i=0}^{n4} a_{4i,j} \Delta MPR_{t-1,j} + \sum_{i=0}^{n5} a_{5i,j} \Delta INF_{t-1,j} \\
& + \lambda ECMt - 1 + \mu_t - - - - - \tag{3}
\end{aligned}
$$

Where;

Δ = difference operator while μt = white noise or error term,

n = optimal lag length,

$\alpha_1, \alpha_2, \alpha_3, \alpha_4 \alpha_5$ = short run dynamics of the model,

$c_1, c_2, c_3, c_4 c_5$ = long run elasticities, and

μ_t = error term.

ECM_{t-1} = error correction term obtained from the co-integration model.

The error coefficients ($\lambda1$) show how quickly the co-integration model corrects any imbalance from the previous period or the speed at which it adjusts to get back to the long run equilibrium. The coefficient of ECM is expected to be negative and statistically significant. A negative and significant $ECMt-1$ coefficient means that any short-term movement between the explained and independent variables will eventually return to the long run relationship.

5. Results and Discussion

To avoid wrong conclusions, this study used the Augmented Dickey Fuller (ADF) test to check if the data is stable. The test has two main ideas: H_o says the variable has a unit root and isn't stable, while the other idea, called H_1 says the variable doesn't have a unit root and is stable. The test results are shown in Table 1.

Table 1: Unit Root Test Outcome via Augmented Dickey-Fuller

Variables	Level form		First difference		Order of integration
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value	
POV	-1.657559	-2.936942	-9.602983	-2.936942	1(1)
CPS/GDP	-0.966909	-2.935001	-5.265963	-2.936942	1(1)
M3/GDP	-0.708074	-2.935001	-6.129616	-2.936942	1(1)
MPR	-3.346950	-2.935001	-	-	1(0)
INF	-3.100230	-2.935001	-	-	1(0)
Recall: POV, CPS/GDP, M3/GDP, MPR and INF as defined previously.					

Source: Authors' Computed Result from (E-views 10).

The ADF test results for each series in Table 1 show that at the 5% significance level, MPR and INF are stationary at level 1(0) because their ADF values are higher than the 5% critical values. However, POV, CPS/GDP, and M3/GDP are stationary only after taking the first difference, which means they are 1(1). Since the variables are integrated of order 1(0) and 1(1), the conditions for using an ARDL model to check for a long-run relationship are met.

Table 2: ARDL Bounds Test for Co-integration

Model		**F-Statistic** = 5.677085	
POV = F(CPS/GDP, M3/GDP, MPR, INF)		K = 4	
Critical Values	**Lower Bound**		**Upper Bound**
5%	2.56		3.49
Recall: POV, CPS/GDP, M3/GDP, MPR and INF as defined previously.			

Source: Authors' Computed Result from (E-views 10)

The ARDL bounds test for co-integration shows that there is a long-term connection between the variables (POV, CPS/GDP, M3/GDP, MPR, and INF). This is because the F-

statistic, which is around 5.677085, is higher than the upper critical value at the 5% significance level. This result gives enough evidence to reject the idea that there is no long-term relationship among these variables. Based on this, the study found both the long-term and short-term effects of the variables on each other.

Table 3: Estimated ARDL Long Run Coefficients. Dependent Variable: POV ARDL (3, 3, 4, 4, 3)

Regressors	Coefficient	t-Statistic	P-Value
CPS/GDP	-0.046399	-0.020015	0.9843
M3/GDP	4.370491	1.641064	0.1203
MPR	3.579756	3.992625	0.0010
INF	-0.750279	-3.937411	0.0012
Recall: POV, CPS/GDP, M3/GDP, MPR and INF as defined previously.			

Source: Authors' Computed Result from (E-views 10)

The long-run coefficients from Table 3 show that in Nigeria, private sector credit as a ratio of GDP in % and the inflation rate are linked to lower poverty levels. On the other hand, the broad money supply as a ratio of GDP in % and the monetary policy rate are connected to higher poverty levels. Notably, the monetary policy rate and inflation rate have a strong effect on poverty. However, private sector credit and broad money supply do not have a strong impact. This suggests that changes in the monetary policy rate and inflation rate over time will have a major effect on poverty in Nigeria.

Table 4: Error Correction Representation for the Selected ARDL Model ARDL (3, 3, 4, 4, 3)

Regressors	Coefficients	t-Statistic	P-Value
CPS/GDP	-0.629370	-1.954699	0.0683
M3/GDP	0.482164	2.725862	0.0150
MPR	0.434167	3.142030	0.0063
INF	0.097250	2.553415	0.0213
ECM (-1)	0.238394	6.686332	0.0000
R-squared = 0.855263 **D-W stat.** = 2.184319			
Adjusted R-squared = 0.744987 **Akaike info criterion** = 4.116026			
Schwarz criterion = 4.848630 **F-statistic** = 160.3712			
Prob(F-statistic) = 0.000000			
Recall: POV, CPS/GDP, M3/GDP, MPR and INF as defined previously.			

Source: Authors' Computed Result from (E-views 10).

Table 4 shows the results of the short-run dynamic coefficients that are connected to the long-run relationships obtained from the ECM equation. The Error Correction Term in the model has the correct sign, which is negative, and it is statistically significant. This means the model adjusts towards long-term equilibrium over time. In other words, it shows how the model moves from short-term balance to long-term balance. This suggests that any short-term differences in poverty levels will eventually correct themselves and reach a long-term equilibrium. The Durbin-Watson (DW) value of 2.184319 shows that autocorrelation is not a problem in the model.

In addition, the coefficient for private sector credit as a ratio of GDP in % is negative in the short run. This means that if private sector credit as a ratio of GDP in %

increases by one percent, it will lower poverty incidence by about 0.629370 percent. This suggests that private sector credit as a ratio of GDP in % has helped to reduce poverty in Nigeria during the time period studied. This result matches the findings of Ejemezu, Nwambeke, Oko and Ibe (2023), who looked at how financial development affects poverty in Nigeria from 1986 to 2020 using the Ordinary Least Squares method. They found that the ratio of private sector credit to GDP had a negative impact on poverty reduction n Nigeria. However, the coefficient for private sector credit as a ratio of GDP in % is not statistically significant. Therefore, it was concluded that there is no strong or significant connection between private sector credit as a ratio of GDP in % and poverty incidence in Nigeria.

Furthermore, the coefficient of broad money supply as a ratio of GDP in percentage has a positive sign in the short run. This is not what was expected beforehand. What this means is that, when there is a percentage increase in broad money supply as a ratio of GDP in percentage, it will lead to an increase in poverty incidence by 0.482164 percent. This also shows that broad money supply as a ratio of GDP in percentage has a detrimental effect on poverty incidence in Nigeria during the time period studied. This result is consistent with the findings of Ejemezu, Nwambeke, Oko and Ibe (2023), who looked at how financial deepening affects poverty in Nigeria from 1986 to 2020 using the Ordinary Least Squares method. They found that the broad money supply as a ratio of GDP has a significant positive effect on poverty reduction in Nigeria. However, the coefficient of broad money supply as a ratio of GDP in percentage is statistically significant. Therefore, it was concluded that there is a significant link between broad money supply as a ratio of GDP in percentage and poverty incidence in Nigeria. This implies that if policies regarding broad money supply as a ratio of GDP in percentage in Nigeria are well planned and properly carried out, they can help reduce the incidence of poverty in the country.

Turning to the control variables, this study discovered a significant positive influence of monetary policy rate and inflation rate on poverty incidence in Nigeria during the period of study. The result indicates that inflation and high monetary policy rate are consistently detrimental for the poor.

5.1 Post Estimation Diagnostic Tests Results
In this study, diagnostic tests were done to check if the model estimated can be trusted for making policy predictions or recommendations. This study used specific tests for this purpose. The Wald test was used to check if the coefficients are restricted properly. The Breusch-Godfrey (B-G) Lagrange Multiplier (LM) test was used to check for serial correlation, and a normality test was used to check if the data follows a normal distribution. These test results are shown in Table 5, Table 6, and Figure 1.

5.1.1 Wald Test
The Wald test is used to check if the coefficients of the causal variables in the ECM model are jointly significant. The F-statistic in Table 5 was used to find out this.

Table 5: Wald Test Result

Wald Test:			
Equation: Untitled			
Test Statistic	**Value**	**Df**	**Probability**
F-statistic	178.3178	(5, 16)	0.0000
Chi-square	891.5888	5	0.0000

Source: Authors' Computed Result from (E-views 10)

The results in Table 5 show that the F-statistic is around 178, and the probability value of 0.0000 is lower than 0.05, which is the usual 5 per cent significance level. This means that all the variables used in the model together play a significant role in explaining poverty incidence in Nigeria during the time period studied.

5.1.2 Test for Serial Correlation

The Breusch-Godfrey Serial Correlation LM test was used as a more advanced method to check if there is no serial correlation, compared to the alternative idea that serial correlation exists, in the ECM results at a 5 percent level of significance.

Table 6: Breusch-Godfrey Test for Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.244847	**Prob. F(2,14)**	0.7861
Obs*R-squared	1.284250	**Prob. Chi-Square(2)**	0.5262

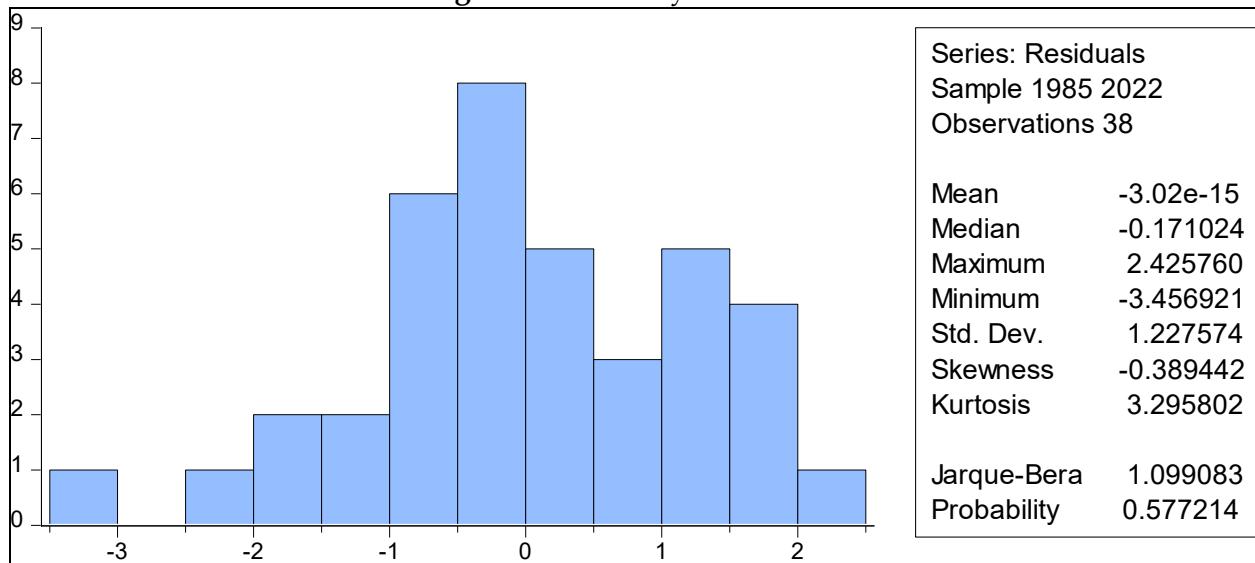**Source:** Authors' Computed Result from (E-views 10)

The results displayed in Table 6 show that the error correction model does not have a serial autocorrelation issue. This is because the chi-square value and the probability associated with it are higher than 0.05.

5.1.3 Normality Test Result

The Jarque-Bera statistic was used to check if the error term in the poverty incidence model follows a normal distribution, using a 5 percent significance level.

The graph in Figure 1 shows that the error term follows a normal distribution at the usual significance level of 5%. This is because the probability value, or p-value, for the Jarque-Bera test is about 0.577, which is higher than the 0.05 level. This means we accept the idea that the residuals in the ECM model are normally distributed.

Figure 1: Normality Test Result

Source: Computed by the researcher using E-Views 10.

6. Conclusion and Recommendations

Many studies have looked at how financial development affects poverty, but not much research has focused on how financial development relates to poverty in Nigeria. Different theories give conflicting ideas, and past studies have had mixed results. This study tried to get clearer answers by looking at Nigeria and introducing control variables such as the interest rate set by the central bank and the rate of inflation. The data used came from reports by Nigeria's central bank and bureau of statistics, and included information on poverty incidence, credit given to the private sector as a ratio of the country's economic output - GDP in percentage, the broad money supply as a ratio of GDP in percentage, inflation, and interest rates. The study used a special economic method called Autoregressive Distributed Lag - ARDL to examine how these factors are connected in both the short term and the long term. The findings showed that in both the short and long run, the amount of credit given to the private sector as a ratio of GDP in percentage has a negative effect on poverty incidence. That is, the credit to the private sector as a ratio of GDP in % has a mitigating influence on poverty incidence. Meanwhile, broad money supply as a ratio of GDP in %, has a detrimental influence on the incidence of poverty, although significant in the short run. Regarding the control variables, this study discovered in the short run a significant positive influence of the monetary policy rate and inflation rate on poverty incidence in Nigeria during the period of study. The result indicates that inflation and high monetary policy rates are consistently detrimental for the poor. But in the long run, the monetary policy rate has a significant positive relationship with poverty incidence. However, the inflation rate has a significant negative relationship with poverty incidence. The estimation suggests that financial deepening has the potential to reduce poverty in Nigeria. That is, if financial deepening is well pursued, it will contribute to the reduction in poverty incidence in Nigeria. Therefore, this study recommended the need to foster an expansion in credit to the private sector to reduce

poverty in Nigeria. Efforts should be made to expand creditor information and firm up creditor rights. The government should start working on policies that will help make the financial system stronger and create new financial reforms. These policies should help improve the quality of life of people in Nigeria in a fair and meaningful way. Further empirical studies can be conducted on this by introducing institutional variables such as property rights.

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Conflict of Interest Statement

The author declares no conflicts of interest.

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