Financial Development and Socioeconomic Outcomes in Nigeria: An Auto-Regressive Distributive Lag Approach

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Abstract

This research looked at the link between financial development and Nigeria's socioeconomic outcomes from 1990 and 2022. The World Bank's World Development Indicators and the Central Bank of Nigeria's Statistical Bulletin provided the data. The poverty rate is used to measure socioeconomic results, whereas stock market capitalization, credit to private sector, interest rate spread, broad money supply, and financial deepening are used as proxies for financial development. The individual series were tested for unit roots using the Augmented Dickey Fuller method. The diagnostics created mixed orders of I(0) and I(1) integrations, therefore the Auto-Regressive Distributive lag bound was used. Financial development and socioeconomic results do not have a long-term link, according to the analysis of the model's bound test result. Further regression results showed that financial deepening and stock market capitalization had a negative but significant connection with poverty. Broad money supply, on the other hand, has a negative and negligible impact on poverty rate in the current and previous year periods. The relationship between credit to the private sector, interest rate spread, and poverty rate, however, indicated positive and significant relationship both in the previous and second year period. Thus, it was shown that Nigerian socioeconomic results were significantly influenced by financial development. Therefore, it was suggested, among other things, that the federal government takes into account enacting progressive tax changes in order to more fairly divide wealth and finance social welfare initiatives meant to reduce poverty.
Keywords: *Poverty Rate, Stock Market Capitalisation, Interest Rate Spread, Credit to Private Sector, Money Supply.*

1.   Introduction

An important factor in determining a country's economic and social fabric is financial development. The development of financial markets, tools, and institutions in Nigeria has the capacity to have a big impact on socioeconomic results. Increased access to money, better financial services, and more effective resource allocation are all made possible by the growth and improvement of financial markets, institutions, and systems. Financial development, according to Okoye and Ezema (2021), is a process that denotes improvement in things like funding and developing financial institutions' operations, developing new (innovative) financial products and growing markets for them, and increasing the amount, caliber, and efficacy of financial intermediary services. According to Okpara et al. (2018) and Slesman et al. (2019), financial development is a multifaceted notion that is influenced by the financial sector's efficacy and

efficiency, especially when it comes to mediating transactions between the economy's surplus and deficit units.

Numerous social outcomes, including as income distribution, the eradication of poverty, the creation of jobs, and general economic growth, are greatly impacted by this development. Similarly, Akintola et al. (2020) contended that by directing financial resources from surplus spending units to the most productive deficit spending units, a well-developed financial sector improves the process of financial intermediation and, therefore, economic development. The degree of financial development is important when considering Nigeria, a nation with a large population and tremendous economic potential. Understanding how financial development affects these socioeconomic factors is crucial for developing policies that promote inclusive growth and sustainable development. Nigeria, one of Africa's largest economies, faces significant challenges like high rates of poverty, stark income inequality, and widespread unemployment. Nigeria's financial industry combines informal financial networks with official institutions including stock exchanges, banks, and insurance providers. Nigeria's financial sector has seen significant changes over the last several decades, including the creation of regulatory organizations, the reform of banks, and the rise of fintech technologies. These developments might increase economic efficiency, increase loan availability, and encourage entrepreneurship.

As an illustration of better access to financial services, the number of bank branches per 100,000 individuals grew from 4.4 in 2005 to 5.8 in 2020. Nonetheless, there are many different and intricate ways that financial development affects socioeconomic results in Nigeria. Better financial development may reduce poverty and open up new economic possibilities, but if its advantages are not shared equally, it can also make income disparity worse. For instance, even while financial inclusion programs have made more Nigerians eligible for banking services, there is still a substantial gap between rural and urban regions, with the former still being disproportionately underprivileged. In contrast to only 30% of people living in rural areas, almost 60% of those living in cities have access to formal financial services as of 2018.As a result, the World Bank estimates that Nigeria's GDP per capita increased from $1,420 in 2000 to $2,097 in 2020, demonstrating a notable increase in economic growth that was impacted by developments in the banking sector. Furthermore, financial development has an effect on employment numbers as well. According to data from the World Bank, Nigeria's unemployment rate increased from 9.9% in 2010 to 27.1% in 2020. This rise highlights the intricacy of the consequences of financial development, indicating that while financial systems have grown, employment growth has lagged behind the expansion of the labor force. Furthermore, there is still a lot of income disparity as shown by the Gini index. Nigeria's 2018 Gini coefficient was 43.0, suggesting that inequality persisted despite the country's financial sector's expansion.

Given these circumstances, it is clear that knowing how financial growth is related to socioeconomic outcome in Nigeria is crucial. Furthermore, a thorough analysis of earlier research revealed that the relationship between financial development and socioeconomic outcomes has also not received enough attention in the literature. Examples of earlier studies that discovered elements of financial development to have a favorable and significant impact on socioeconomic outcomes are Haguiga and (2019); Jose et al. (2019); Mahmood (2013); Akmil and Alpon (2023); Zaheer et al. (2022); Azmeh (2021); Akintola et al. (2020). Research by Eugene (2016), Rym et al. (2013), Nkamnebe et al. (2023), Audu and Okumoko (2013), Babajide and Babatunde (2013), and others suggests that the opposite is true. These studies found that financial development components had a negative impact on socioeconomic

outcomes.

Moreover, none of these studies employed the poverty rate as a dependent variable. It seems that not enough has been written on this topic. To address that requirement is the aim of this research effort. In order to do this, this research looked at the relationship between financial development and socioeconomic results in Nigeria experimentally.

2.   Literature Review
3.   Theoretical Framework
        Financial Inclusion Theory

Financial Inclusion Theory, as popularized by scholars like Thorsten Beck and Asli Demirgüç-Kunt in the early 2000s, posits that access to financial services plays a crucial role in enhancing economic growth and reducing poverty. The theory assumes that a significant portion of the population, especially in developing countries like Nigeria, lack access to formal financial services. This lack of access hinders their ability to save, invest, and manage risks of effectively. Proponents of this theory, such as Thorsten Beck and Asli Demirgüç-Kunt, argue that by providing broad-based access to financial services such as banking, credit, savings, and insurance, individuals can participate more fully in economic activities, leading to improved income distribution, poverty reduction, and overall economic growth.

In Nigeria, financial inclusion is seen as a pathway to lift millions out of poverty and promote economic development. Proponents like Robert Cull and Loera Klapper highlight the increase in bank branches per 1000,000 adults from 4.4 in 2005 to 5.8 in 2020 as evidence of progress. They also emphasize the role of digital financial services, such as mobile banking and fintech innovations, in reaching underserved populations, in reaching underserved populations. Government initiatives like national the Financial Inclusion Strategy aim to increase the percentage of Nigerians with access to financial services. However, opponents like David Roodman and Jonathan Morduch argue that simply increasing access to financial services is not sufficient. They contend that without complementary infrastructure, financial literacy, and trust in the financial system, the benefits of financial inclusion may not be fully realized. Critics also point to the significant rural-urban divide, noting that as 2018; approximately 60% of the urban population had access to formal financial services compared to only 30% of the rural population.

Poverty Trap Theory

The poverty trap theory, advanced by economists like Jeffrey Sachs in the early 2000s, suggests that poverty is a self-reinforcing condition where individuals and communities remain stuck in a cycle of poverty due to various constraints. The theory assumes that poor individuals lack access to essential resources, including capital, education, and healthcare, which are necessary for improving their economic conditions. Proponents like Jeffery Sachs and Abijit Banerjee argue that without external intervention, such as financial aid, microcredit, and social safety nets, the poor cannot invest in productive activities, thus remaining trapped in poverty.

In Nigeria, the poverty Trap Theory is particularly relevant given the high levels of poverty and income inequality. Proponents such as Muhammad Yunus and Esther Duflo advocate for increased access to microcredit, which can help individuals invest in small businesses and improve their livelihoods. They emphasize the importance of investing in human capital by improving access to education and healthcare, and the role of savings and insurance in helping the poor manage risks. For example, microfinance institutions provide small loans to those excluded from traditional banking, enabling them to start or expand businesses. However, opponents like Dambisa Mayo and William Easterly argue that it oversimplifies the complex

nature of poverty and economic development. They contend that while financial resources are important, structural issues such as, corruption, poor governance, and inadequate infrastructure also plays a significant role in perpetuating poverty. Critics also caution that microcredit can lead to over-indebtedness if not properly managed, potentially worsening the economic situation of the poor.

Empirical Literature

Nkamnebe et al. (2023) evaluated the influence of financial development on economic growth in Nigeria, Using yearly data from 1985 to 2022 derived from the Central Bank of Nigeria Statistical Bulletins and World Bank indicators. Credit to the private sector and gross savings have a positive but minor effect on economic growth, according to the ARDL long term statistics. On the other hand, financial technology, the exchange rate, and all share indices have a positive and large effect. But remittances show that they have a negative and negligible effect on Nigeria's GDP development. Economic development, private sector credit, financial technology, and gross savings are the three unidirectional causalities that were found in Nigeria's Pairwise causality test.

The impact of financial development on economic growth in high-income nations is examined by Akmil and Alpon (2023). Research shows that high-income nations' economic growth is influenced by financial development. Findings from this study highlight the importance of financial development in fostering economic growth for nations that prioritize the establishment of robust financial sectors via the mobilization of capital. Financial development, particularly from the viewpoint of financial institutions and markets, has to constitute the bedrock of policymaking in order to influence the allocation and absorption of financial resources and emerge as a key driver of economic growth. It is also important to keep savings and investment going strong so they can continue to fulfill the demands for financial resources and fuel economic development. This research provides high-income nations with the data they need to solidify their financial policies, laying the groundwork for future economic expansion.

The effects of financial liberalization, GDP growth rate, and the expansion of the financial sector on financial instability are investigated by Babar et al. (2022). Financial growth and liberalization worsen financial instability, according to a research that uses data from 53 nations between 2000 and 2016 and use a battery of estimating approaches including system GMM, dynamic panel, and fixed effect. Economic expansion reduces it, according to the research.

With data from 44 nations and information from 42 middle-income nations, Zaheer et al. (2022) examines the connections between financial development and (i) economic growth and (ii) economic inequality. A panel Autoregressive Distributed Lag (ARDL) model is used to produce estimates over a 23-year period (1995– 2018). The results show that both categories of nations benefit from financial development, which leads to economic growth in the long term. In the instance of upper-middle income nations, however, the effect of financial development on GDP growth is more apparent. There was also a two-way Granger causation between financial development and economic growth, according to a Granger causality test based on Vector Error Correction (VEC). Both nations with lower-middle incomes and those with higher-middle incomes showed an inverted U-shaped relationship between financial development and income disparity.

Economic growth in emerging nations is examined by Azmeh (2021) in relation to financial development. In order to determine how these variables affected economic development for 42

developing nations from 1970 to 1995, the researchers used an Ordinary Least Squares (OLS) model. The findings of the investigation reveal that the degree of financial development has a strong and substantial influence on economic growth for these emerging nations.

Using quarterly data from 2000Q1 to 2019Q4, Akintola et al. (2020) examined the effect of financial sector expansion on GDP growth in Nigeria. They did this by separating the contributions of money, capital, and foreign exchange markets to GDP growth. Results showed that all share index, financial deepening, and banking system liquidity all contributed positively and significantly to real production growth over the long term, although exchange rate spread behavior was in line with declining levels of real output growth. Using data collected from 2005–2014, Haguiga and Amani (2019) want to experimentally determine whether or not there is a correlation between banking sector expansion and GDP growth in Algeria. According to the PANEL model, which was used to analyze the data, the expansion of Algeria's economy throughout the research period was stimulated by the rise of the financial sector. From 1980 to 2015, José et al. (2019) analyzes the effect of globalization and the evolution of financial markets on the GDP growth of 10 different nations. The short- and long-term characteristics of such connections were investigated using an ARDL bounds test technique. The findings indicate that the development of the banking sector has an effect on economic growth, both in the short and long term. Changes in the stock market have an effect on GDP growth over the long run.

Using the auto-regressive distributed lag (ARDL) method of co-integration analysis, Eugene (2016) investigates the connection between the increase of financial intermediaries and the expansion of the Nigerian economy from 1981 to 2011. The findings demonstrate that, as is typical in countries reliant on oil, there is no discernible difference between financial development and economic growth in Nigeria. In the long run, there is no correlation between the development of financial intermediaries and economic growth in Nigeria. However, in the short run, there is a strong negative correlation. This study's findings demonstrate how the oil industry is crucial to Nigeria's economy. Financial development's effect on Nigeria's GDP growth is examined empirically by Audu and Okumoko (2013). There was statistical significance for every variable in the investigation, according to the projected long-run Parsimonious Error Correction Model (ECM). Lending rates have a substantial effect on GDP, contrary to our theoretical expectations, as shown in the research. Our analysis found that commercial bank loans to the private sector had a favorable effect on both financial development and economic growth, as predicted based on a priori expectations. Our prediction that MGDP will have a positive effect on Nigeria's economic growth and financial development was wrong. Research also shows that commercial bank loans to private companies that aren't involved in finance went against preconceived notions yet had a major impact on Nigeria's economic growth and financial development. There was a positive change in the ratio of commercial bank deposits to gross domestic product (RDEP), which has important implications for Nigeria's financial development and economic growth.

Using data from a cross-section of Mediterranean nations covering the years 1985–2009, Rym et al. (2013) investigates the connection between the expansion of the financial industry and GDP growth. The findings point to a lack of effective financial regulation and oversight in the area, as well as a negative correlation between growth and private sector loans and bank deposits. When taking into consideration the quality of an institution, the findings suggest that the size and liquidity of the stock market significantly impact growth. The expansion of an economy is greatly aided by investment, whether it local or foreign direct investment. Important elements for

growth include stable prices and robust institutions. Poorer nations are overtaking wealthier ones in terms of economic growth, since initial GDP has a consistently and noticeably negative effect on   growth.

The impact of private credit and wide money (M2) on poverty and inequality in African nations is investigated by Babajide and Babatunde (2013). According to the data, financial progress in Africa has not significantly reduced poverty and inequality. A decrease in poverty and inequality may be possible as a result of macroeconomic factors that were shown to be statistically significant, such as trade openness and low inflation.

For Pakistan, Mahmood (2013) shows that from 1979 to 2008, there was a correlation between GDP growth and financial development. Findings from this study point to a co-integrating relationship between development, financial investment, real interest rates, and real deposit rates. Findings indicate a weak but positive relationship between economic growth and real deposit rate in the long term. Given the relative importance of the variable of financial development, the reactions to real interest rates in the short and long term are negligible, suggesting that the delivery of funds is more important than their cost.

4.   Methodology

This article's secondary data was sourced from the development indicators maintained by the World Bank and the statistics bulletin of the Central Bank of Nigeria (CBN). The research approach used was ex-post facto. This data source is considered credible and trustworthy for this investigation. The data will cover thirty-two (32) years, from 1990 to 2022. Financial deepening (FD), interest rate spread (IRS), broad money supply (MS), stock market capitalization (SMC), and credit to the private sector (CPS) were the proxies used to indicate financial development. Sovereignty rate (POR) was used to record socioeconomic results**.**

Model Specification

Haguiga and Amani (2019) used a model to examine the effect of financial development on economic growth; this research adapts that model. The one that was used was;

GDP = f (ROA, ROE, TA_G, M2, PC   (1)

In which GDP stands for the economic growth index, ROA and ROE are rates of return on private funds of the bank, TA_G is a measure of the bank's size relative to GDP, M2 is a liquidity index relative to GDP during the study years, and PC is a credit indicator relative to GDP during the study years.

Accordingly, in order to achieve the study's objective, the researcher modified the model to include additional elements. Financial Deepening (FD), Stock Market Capitalization (SMC), and Interest Rate Spread (IRS) are all components of this unit. All three of these things together constitute financial development. An assertion made by the newly expanded model is as follows:

$POR = f(SMC, CPS, IRS, MS, FD)$ (3.2)

$POR = \beta_0 + \beta_1 SMC + \beta_2 CPS + \beta_3 IRS + \beta_4 MS + \beta_5 FD$ (3.3)

$POR_t = \beta_0 + \beta_1 SMC_t + \beta_2 CPS_t + \beta_3 IRS_t + \beta_4 MS_t + \beta_5 FD + \mu_t$ (3.4)

Where:

POR = Poverty Rate, SMC = Stock Market Capitalisation, CPS = Credit to Private Sector, IRS= Interest Rate Spread, MS = Broad Money Supply, FD = Financial Deepening, μ = Error term, β_0 = Constant and β_1 to β_5 = Parameter Estimates.

The expectations are**:** β_1, β_2, β_4 and $\beta_5 < 0$, β_3, > 0 suggesting that, the sign of β_1, β_2 β_4 and β_5 are by theory expected to have a negative relationship with poverty rate, since increase in SMC,

CPS, MS and FD will stimulate economic growth, foster financial inclusion, and improve income distribution, thereby contributing to poverty reduction in Nigeria, while β_3, is expected to have a positive relationship with poverty rate. This is because increases in interest rate spread will slow-down the economy, increased unemployment, financial exclusion, capital flight, and heightened social unrest which will worsen poverty level.

Description of Variables in the Model
Poverty Rate (POR)
This metric is used to determine what percentage of the population lives below a certain income level, which is also called the poverty threshold or line. A yearly percentage measure of socioeconomic outcomes, the poverty rate stands in for the actual dependent variable.

Stock Market Capitalisation (SMC)
One way to measure the worth of a publicly listed company is by looking at its stock market capitalization, or SMC. Consequently, stockholders and those with equity market investments will see a gain in their personal wealth as a result of a growth in stock market capitalization. Economic development and the creation of new jobs will be aided by this circumstance. One way to assess "financial development" is by looking at stock market capitalization, which is expressed in billions of Naira per year. It was anticipated in this article that SMC and POR would have an inverse relationship**.**

Credit to Private Sector (CPS)
Total loans and credit granted by financial institutions (including banks and non-banks) to people and businesses in the private sector for a variety of reasons is referred to as credit to the private sector (CPS). This does not include loans made to public sector firms or the government. This means that more private sector lending will make it easier for people to establish and grow their own businesses by making capital available to more people. It is generally believed that the poverty rate is inversely related to private sector credit. The private sector's credit is a yardstick for "financial development" and is expressed in billions of naira each year**.**

Interest Rate Spread (IRS)
What we call the "interest rate spread" (IRS) is the gap between the interest rates paid by banks and those that their customers pay on deposits and other forms of finance. Borrowing money from banks will become more expensive for consumers and companies as the interest rate spread rises. The poverty rate will be significantly affected by this circumstance, since it will decrease the availability of loans. Consequently, the connection between poverty and IRS and POR is hypothesized in this work. As a proxy for "financial development," the interest rate spread has traditionally been calculated yearly in percentage terms.

Broad Money Supply (MS)
This is the sum of all the money in circulation in a country, which includes not just physical currency but also demand deposits, savings deposits, and other assets that may be easily converted into cash**.** This insinuates that a rise in broad money supply will stimulate economic activity by increasing the availability of funds for consumptions and investment thereby reducing unemployment and poverty. Therefore, this study expect a negative relationship between MS & POR. Broad money supply is used to capture "financial; development" and is measured in billions of Naira annually.

Financial Deepening (FD)

This represents the process of expanding and diversifying financial intermediation and services within an economy. This implies that rising financial deepening can improve access to credit and financial services for low-income individuals, microenterprises and small business. This paper believes that financial deepening will slowdown poverty rate and expands economic activities. Therefore, a negative relationship is expected between financial deepening and poverty rate. Financial deepening is used to proxy financial development and is measured in percentage (%) Annually.

5. Empirical Data Analysis
Unit Root Test

The study used the Augmented Dickey Fuller (ADF) unit root test to learn which variables to integrate in what order, with the goal of reducing the number of erroneous regressions. This was useful for deciding on the best approach.

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

Variables	Levels		First Difference		Order of Integration	P-value
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value		
LPOR	-3.233035	-2.957110			1(0)	0.0272
LSMC	-1.490242	-2.963972	-7.305656	-2.960411	1(1)	0.0000
LCPS	-2.542539	-2.957110	-4.124504	-2.960411	1(1)	0.0031
LIRS	-3.971939	-2.957110			1(0)	0.0045
LMS	-7.107360	-2.957110			1(0)	0.0000
LFD	-1.149689	-2.957110	-4.871777	-2.960411	1(1)	0.0004

Source: *Author Computation 2024* Level of significance at 5%

The variables in this study are integrated in different orders or a combination of the I(0) and I(1) series, according to the results shown in Table 1, which are derived from the Augmented Dickey-Fuller (ADF) unit root tests. While LSMC, LCPS, and LFD become stationary after initially differencing 1(1), the ADF findings showed that LPOR, LIRS, and LMS are stationary at levels 1(0). Because of this, studying the long-term connection between these variables is best accomplished using the Autoregressive Distributive Lag (ARDL) Bounds test method of co-integration.

Table 2: ARDL Bound Test

Test Statistics	Value		K
F-statistics	3.565688		5
Significance	**I (0)**	**1(1)**	
10%	2.26	3.35	
5%	3.62	3.79	
2.5%	2.96	4.18	
1%	3.41	4.68	

Source: Authors Computation 2024

With an F-statistic of 3.565688, which is higher than the critical values the lower bound but less than the upper bound, Table 2 demonstrates that the variables are not connected to one another over the long run. We accept the null hypothesis and draw the conclusion that there is no relationship over the long run. This proves that long-term financial progress in Nigeria has little

bearing on socioeconomic results. Accordingly, the research takes a look at the socioeconomic results and financial development's short-run link

Table 3: ARDL Short-run Result (LPOR)

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	1.965278	0.344485	5.704981	0.0005
D(LSMC)	-0.238851	0.054436	-4.37004	0.0024
D(LSMC-1)	0.378987	0.066263	5.719471	0.0004
D(LSMC(-2)	0.110437	0.042834	2.578254	0.0327
D(LCPS)	0.363232	0.403254	0.900753	0.3940
D(LCPS(-1)	0.908226	0.349086	0.601724	0.0315
D(LCPS(-2)	1.299063	0.312503	4.156967	0.0032
D(LIRS)	0.186270	0.100998	1.844296	0.1024
D(LIRS(-1)	0.015261	0.092035	0.165814	0.8724
D(LIRS(-2)	0.475091	0.102973	4.613761	0.0017
D(LMS)	-2.41E-05	1.60E-05	1.503532	0.1711
D(LMS(-1)	-5.24E-05	2.45 E-05	-2.141150	0.0647
D(LMS(-2)	-2.54E-05	2.25 E-05	-1.130094	0.2912
D(LFD)	0.163538	0.331750	0.492956	0.6353
D(LFD(-1)	-0.722587	0.286331	-2.523606	0.0356
D(LFD(-2)	-0.277716	0.255768	-1.085816	0.3092
Ecm (-1)	-0.754209	0.127914	-5.896224	0.0004
Adj R^2 = 0.698727, F-stat = 5.203045 (0.002300), DW = 2.491180				

Source: Authors computation 2024

At the 0.05 level of significance, the coefficient estimate for the error correcting component, ECM (-1) has a negative value. According to the results, the model is approaching long-run equilibrium at a pace of 75% every year. Thus, a 75% annual adjustment speed may correct the error from the prior year.

The dependent variable LPOR is 70% explained by the independent variables LSMC, LCPS, LIRS, LMS, and LFD, as shown by the corrected R-Square (R2) value. The model stands out when taken as a whole due to the substantial F-statistic at the 5% level of significance. Based on the Durbin-Watson statistics of 2.491180, which is close to 2, the model would not function without   serial   correlation.

The short-run result of the model is shown in Table 3. Using the log value of the poverty rate (LPOR) as a proxy for socioeconomic outcomes in Nigeria, the stock market capitalization (SMC) for the current and year periods was negative (-0.238851). A decrease of around 0.24 percent would be seen in the log value of the poverty rate (LPOR), a measure of socioeconomic outcomes, for every one unit rise in the logarithm of Nigeria's stock market capitalization (LSMC). There is a statistically significant correlation between the log value of the poverty rate and stock market capitalization (p=0.0315, 0.0032, respectively). None of the standard economic models foretell this result. A rise in stock market capitalization is likely to lead to a decrease in the log value of the poverty rate.

A positive value of +0.908226 and +1.299063 was achieved when the log value of credit to private sector (LCPS) was applied to the logarithm of poverty (LPOR) when the log value of the

poverty rate (LPOR) is used as a proxy for socioeconomic outcomes in Nigeria over the previous and subsequent year. The log value of credit to private sector (LCPS) in Nigeria will cause a 0.91% and 1.3 units increase in the log value of the poverty rate (LPOR), a measure of socioeconomic consequences. A conclusion about the relationship between credit to private sector and the log value of poverty rate may be drawn from the p-value of 0.0315 and 0.0032. Economic theories do not lend credence to this result. The expected result is that as credit to private sector increases, poverty rate is expected to slow down in response.

A positive value of +0.475091 is likewise assigned to the interest rate spread (IRS) when the log value of the poverty rate (LPOR) is used as a proxy for socioeconomic outcomes in Nigeria over the subsequent year. The interest rate spread (IRS) in Nigeria will cause a 0.48% increase in the log value of the poverty rate (LPOR), a measure of socioeconomic consequences. A conclusion about the relationship between interest rate spread and the log value of poverty rate may be drawn from the p-value of 0.0017. Economic theory lends credence to this result. As the interest rate gap widens, the expected result is that the poverty rate's logarithm will grow.

When applied to the log of broad money supply (LMS), the log value of the poverty rate (LPOR) is negative (-2.41E-05, -5.24E-05, -2.54E-05), hence serving as a proxy for socioeconomic outcomes in Nigeria in the present, the previous year, and the year after. A one-unit increase to the log value of Nigeria's broad money supply (LMS) would result in a 2.41-unit, 5.24-unit, and 2.5-unit drop in the log value of the poverty rate (LPOR), a measure of socioeconomic outcomes. There is no statistically significant relationship between the logarithms of the broad money supply and the poverty rate (p=0.1711, 0.0647, and 0.2912). This is what economists expect to happen. The expansion of the money supply is expected to lead to an improvement in the logarithm of the poverty rate as a result of more employment and higher incomes.

Last but not least, the log value of financial deepening (LFD) is negative (-0.722587) when last year's poverty rate (LPOR) is used as a proxy for socioeconomic outcomes in Nigeria. A one-unit increase in financial deepening (FD) in Nigeria would lead to a 0.72% decline in the log value of the poverty rate (LPOR), a measure of socioeconomic outcomes. A statistically significant link exists between the logarithm of the poverty rate and the log of financial depth (p = 0.0356). This is what economists expect to happen. As financial depth increases, the expected result is a decrease in the log value of the poverty rate.

Diagnostic Test

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

|	F-Statistic	Prob-Value
Ramsey Reset Test	7.583190	0.7283
Breusch-Godfrey Serial Correlation LM Test	1.967587	0.2203
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.670347	0.7808

Source: Authors computation 2024

Ramsey Reset test for linearity yielded an f-statistic of 7.583190 and a calculated p-value of 0.7283, both beyond the 5% (0.05) required value, as shown in the diagnostic test results in Table 4. So, the model is well stated, and we can reject the null hypothesis.

Based on the results of the Serial or Autocorrelation Test using the Breusch-Godfrey Serial Correlation LM Test, the f-statistic is 1.967587 and the Chi-Square probability value is 0.2203. The probability value of around 22% (0.2203) is more than the essential value of 5% (0.05),

proving   that   the   model   does   not   include   serial   correlation.

The heteroscedasticity test, which used the Breusch-Pegan-Godfrey test, yielded an f-statistic of 0.670347 and a Chi-Square probability value of 0.7808. There does not seem to be heteroskedasticity in the model, as shown by a probability Chi-square value more than 5% (P >0.05). This means that the residuals are perfect for regression since they are homoscedastic, or have a constant variance.

Normality Test
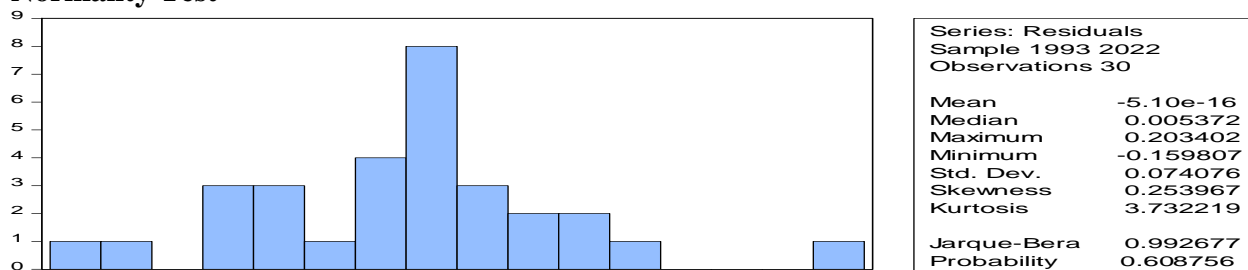
According to Figure 1, which provides a summary of the normality test, the residuals follow a normal distribution. At 0.992677 and 0.608756, respectively, the Jarque-Bara and related probability values are more than the 0.05 significance level.

Discussion of Findings
Stock Market Capitalisation and Poverty Rate in Nigeria
When looking at the short-term data from the previous year, the Auto-Regressive Distributive Lag (ARDL) regression analysis revealed that SMC is negatively correlated with POR. It lends credence to the idea that the stock market capitalization (SMC) and poverty rate (POR) are inversely related, as proposed by economic theory. The public at large anticipates a decline in the poverty rate as a result of a growth in stock market capitalization (SMC) because of the increased wealth of investors and shareholders. The p-value also indicates that there is a statistically significant relationship between SMC and POR. So, it turns out that the SMC and POR are strongly connected, contrary to the null hypothesis. Contrary to previous studies by Nkamnebe et al. (2023) and Akintola et al. (2020), this one found different outcomes.

Credit to Private Sector and Poverty Rate in Nigeria
Regression study suggested a favorable relationship between private sector credit (CPS) and poverty rate (POR). The idea that private sector credit (CPS) correlates positively with the poverty rate (POR) runs counter to sound economic theory. This is due to the fact that private sector funding for company expansion, job creation, and poverty reduction might be increased via deposit money banks and other financial organizations. The finding's p-value indicates that private sector credit (CPS) significantly affects the poverty rate (POR). The results show that there is a substantial relationship between the private sector credit (CPS) and the poverty rate (POR), thereby rejecting the null hypothesis. Consistent with previous work by Nkamnebe et al. (2023), our investigation found the same thing.

Interest Rate Spread and Poverty Rate in Nigeria
Additionally, looking at data from the most current, prior, and following year reveals a strong short-term correlation between the poverty rate (POR) and the interest rate spread (IRS). It is just what economists had predicted: there would be a positive relationship between the IRS and the POR. An increase in the interest rate spread (IRS) is the cause of the expected reduction in the nation's increasing expenses of capital deposit rate. On the other hand, the p-value of the

outcome indicates that the interest rate (IRS) does not significantly impact the POR. Results support the absence of a statistically significant association between IRS and POR, which is the null hypothesis of the research**.**

Broad Money Supply and Commodity Price Index in Nigeria

It seems that the broad money supply (MS) and the poverty rate (POR) during the last year have an inverse relationship in the near run. According to economic theory, the MS and the POR should be inversely related. It is believed that an increase in the MS would improve economic liquidity, which will lead to more economic activity and, ultimately, a decrease in the poverty rate. The p-value of the result indicates that there is no statistically significant relationship between the broad money supply (MS) and the poverty rate (POR). Given that the correlation between MS and poverty rates was shown to be statistically negligible, we accept the null hypothesis that these two variables are unrelated**.**

Financial Deepening and Poverty Rate in Nigeria

Lastly, the findings of the estimated model demonstrated that the poverty rate (POR) is temporarily affected by negative financial deepening (FD) after the current year. Theoretically, economic theory suggests that financial deepening (FD) and poverty rate (POR) are inversely related. The country's poverty rate has decreased as a consequence of the growth of financial markets and services, which has increased the availability of these services to both individuals and enterprises. The p-value of the study indicates that financial deepening (FD) does, in fact, have a statistically significant influence on poverty rate (POR). Therefore, the analysis does not provide evidence to support the null hypothesis that there is no statistically significant link between the FD and the POR.

6.   Conclusions and Recommendations

Stock market capitalization, loans to the private sector, interest rate spread, wide money supply, financial depth, and other financial development factors were shown to have a substantial impact on poverty rate, according to the research. Based on regression analysis, we know that financial deepening and stock market capitalization are negatively and significantly correlated with poverty rate in the most recent and previous years' worth of data. On the other hand, interest rate spread and credit to the private sector are positively and significantly correlated with poverty rate in the previous and second year periods, respectively. Finally, for both the current and prior year periods, the regression findings show that the broad money supply is adversely and insignificantly connected to the poverty rate.

Recommendations

Federal Government should consider implementing progressive tax reforms to redistribute wealth more equitably and fund social welfare programs aimed at poverty alleviation.

Central Bank of Nigeria (CBN) should work to ensure that the regulatory framework promotes responsible lending practices and protects consumers from predatory behaviour by financial institutions. This will encourage the development of innovative financial products tailored to the need of low-income individuals and businesses.

The Monetary Policy Authority (CBN) should monitor interest rate spreads closely and take appropriate measures to prevent predatory lending practice, including setting limit on interest rate differentials and enforcing regulations to protect consumers.

Ministry of social welfare should take the lead in designing and implementing targeted poverty alleviations programs. They can work with other government agencies, non-profit organizations, and community groups to identify the most pressing needs of low-income individuals and communities and develop interventions that address those needs effectively.

Central Bank and Financial Regulatory Authorities should prioritize policies that expand access to banking services, encourage responsible lending practices and protect consumers from predatory behaviour by financial institutions.

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