FINANCIAL DEVELOPMENT, FINANCIAL INCLUSION, AND POVERTY REDUCTION IN NIGERIA

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Abstract

This study explores the intertwined roles of financial development and financial inclusion in alleviating poverty, with a focus on Nigeria. Financial development enhances capital allocation and economic growth, while financial inclusion ensures access to affordable financial services for marginalized populations. Together, they support poverty reduction by promoting investment, entrepreneurship, and risk management. Despite Nigeria's progress with initiatives like the National Financial Inclusion Strategy, challenges such as poverty, unemployment, and inequality persist, hindering widespread benefits. Microfinance institutions and digital financial services, like mobile money, have made strides in reaching underserved regions. However, barriers such as high interest rates, low digital literacy, and unequal access to financial services remain significant. This study examines statistical trends and the effectiveness of financial strategies in fostering sustainable economic growth and poverty alleviation. It underscores the need for enhanced infrastructure, digital education, and trust in financial systems to achieve inclusive development. By addressing these challenges, policymakers and institutions can unlock the full potential of financial inclusion and development as pivotal tools for poverty reduction in Nigeria.

Keywords: *Financial development, Financial inclusion, Poverty alleviation, Microfinance institutions and Digital financial services*

1. INTRODUCTION

Financial development and financial inclusion have emerged as critical components in the discourse on poverty alleviation. Financial development refers to the improvement and expansion of financial markets and institutions, enhancing the efficiency of capital allocation and economic growth. Financial inclusion, on the other hand, ensures that individuals, particularly those in low-income segments, have access to affordable and reliable financial services such as banking, credit, savings, and insurance. Together, these concepts shape economic environments that are conducive to poverty reduction by facilitating investment, consumption smoothing, and entrepreneurship (Demirgüç-Kunt et al., 2018). In developing economies, access to formal financial systems is often limited, particularly for marginalized populations, resulting in a cycle of poverty. Financial inclusion, therefore, aims to break this cycle by providing financial services that help individuals manage risk, invest in human capital, and build wealth over time (World Bank, 2020). This access to financial services promotes savings, enhances productive investments, and fosters economic growth, thereby lifting people out of poverty. Studies have shown that financial inclusion directly impacts poverty reduction by enabling financial access for previously excluded groups and increasing their economic participation (Beck & Demirgüç-Kunt, 2008).

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Nigeria has made significant progress in enhancing financial inclusion through initiatives such as the National Financial Inclusion Strategy (NFIS). This strategy aims to reduce the financial exclusion rate and increase access to financial services for individuals and businesses across the country. However, despite these efforts, challenges such as high levels of poverty, unemployment, and inequality continue to impede inclusive economic development. These barriers prevent many from fully benefiting from financial services, thus limiting the overall impact of financial inclusion efforts (Olowookere & Taiwo, 2021). The complex interplay between financial development, financial inclusion, and poverty alleviation in Nigeria is essential for creating effective policies that promote sustainable economic growth and poverty reduction with the role of financial institutions in facilitating financial inclusion has been crucial, particularly in underserved regions. In many developing economies, microfinance institutions (MFIs) have played a significant role by offering financial products to individuals and small businesses that lack access to traditional banking services. Through microcredit, savings, and insurance options, these institutions help reduce barriers to credit access and support entrepreneurial activities and household consumption (Adediran & Obafemi, 2022). However, the effectiveness of MFIs in reducing poverty is dependent on several factors, including the strength of their business models, regulatory frameworks, and the extent to which their services meet the needs of the target population. Research suggests that while microfinance can positively affect economic outcomes, its role as a poverty alleviation tool varies widely, depending on these contextual factors (Ikpefan & Osuma, 2020). Studies have suggested that while microfinance can positively impact economic outcomes for many, its effectiveness as a poverty alleviation tool varies widely, depending on these contextual factors (Armendáriz & Morduch, 2010).

The digitalization of financial services and the widespread adoption of mobile technology have revolutionized financial inclusion efforts, particularly in developing countries. By enabling access to financial services through mobile phones, digital platforms such as mobile money services have reached populations that were previously unbanked. This is particularly significant in rural areas, where traditional banking infrastructure is often lacking. Mobile money services allow users to perform transactions such as payments, transfers, and savings using their mobile devices, providing convenience and affordability (Suri, 2021). Studies have shown that mobile financial services have empowered individuals to manage their finances more effectively and participate in the formal economy, thus contributing to financial inclusion and poverty reduction (Demirgüç-Kunt et al., 2022). However, the success of mobile money services in driving financial inclusion is dependent on several key factors, such as network coverage, digital literacy, and trust in financial institutions. In areas with poor network coverage, the accessibility of mobile financial services is limited, reducing their potential impact. Additionally, low levels of digital literacy among marginalized populations, particularly in rural areas, can hinder the adoption and effective use of these services. Trust in financial institutions also plays a critical role; users are more likely to adopt and utilize mobile money services if they perceive the institutions providing them as reliable and secure (Riley, 2020). Therefore, to fully realize the potential of digital financial inclusion, governments and private sectors must invest in infrastructure, digital education, and trust-building measures (Klapper et al., 2020).

Financial development can have significant effects on poverty alleviation through enhanced access to financial resources and improved economic opportunities. Increasing the availability of credit, savings, and investment opportunities, financial development enables individuals and businesses to invest in productive activities that generate income, thereby reducing poverty. Moreover, developed financial systems reduce the cost of capital, encouraging entrepreneurship and small businesses that can employ low-income individuals. This economic inclusion helps lift people out of poverty by creating jobs and increasing household incomes. According to Beck et al. (2007), financial development is strongly correlated with economic growth, which is essential for sustained poverty reduction. Furthermore, financial development fosters inclusive growth by improving access to formal financial services, particularly in underserved regions. When more individuals can access banking services such as savings accounts, insurance, and credit, they can manage risks better, invest in education, and secure better healthcare, all of which contribute to long-term poverty alleviation. Studies show that the expansion of financial institutions in rural and low-income areas has led to increased financial stability and reduced vulnerability to economic shocks (Klapper et al., 2016). This inclusive approach addresses the root causes of poverty by empowering individuals with tools to improve their economic conditions.

In examining the challenges related to financial development, financial inclusion, and poverty alleviation in Nigeria, various statistical trends highlight the persistent gaps and limitations in these strategies. Despite Nigeria's financial sector growth, with banking sector assets increasing over the years, poverty rates have not improved correspondingly. According to the National Bureau of Statistics (NBS), Nigeria's poverty rate was about 40% in 2020, with over 82 million people living below the poverty line. This paradox is partly due to unequal access to financial services, with urban regions benefiting more from financial development than rural areas. As Adeleye et al. (2021) note, financial development has primarily benefited those already integrated into the formal economy, leaving out large segments of the population in underserved areas. Regarding financial inclusion initiatives, mobile banking, and microfinance have seen increased adoption, but their effectiveness in reducing poverty remains constrained by several factors. Mobile banking penetration, for instance, has grown, with the Central Bank of Nigeria (CBN) reporting over 50 million mobile money accounts as of 2021. However, rural penetration remains low, with only 25% of rural adults having access to mobile banking services, compared to 59% in urban areas (World Bank, 2021). Similarly, microfinance institutions have grown, but the high interest rates charged by many of these institutions have been counterproductive. A study by Oye et al. (2021) indicates that microfinance loans in Nigeria often come with interest rates exceeding 30%, which undermines their capacity to alleviate poverty as low-income borrowers struggle to repay these loans. Furthermore, low financial literacy levels in rural areas also hinder the effective use of these financial services, as recipients may not fully understand loan terms or the benefits of savings and investment products. Therefore, this study examines the combined effects of financial development and financial inclusion on poverty alleviation in Nigeria. The remaining part of the study comprises four sections. Section two dwells on the literature review, and section three entails methodology. Section four covers data analysis and discussion of results, and section five concludes.

2. LITERATURE STUDY

Financial development is seen as an engine of economic growth and poverty reduction through increased capital availability, improved resource allocation, and enhanced investment opportunities. As outlined by Levine (2005), financial development transaction costs, enhancing credit accessibility, and supporting entrepreneurship. These mechanisms can lead to job creation and income generation, thereby reducing poverty levels. In developing economies, financial development also allows governments to mobilize domestic resources, which can be redirected toward social programs aimed at poverty alleviation (Beck, 2016). However, the extent to which financial development can lead to poverty reduction is contingent on the inclusiveness of financial systems. The relationship between financial development and economic growth is a widely studied concept, where financial development leads to greater economic growth through increased investment, productivity, and innovation (King & Levine, 1993). In theory, economic growth resulting from financial development should reduce poverty by increasing income levels and creating job opportunities. However, the extent to which financial development reduces poverty depends on how inclusive the economic growth process is. If the growth is concentrated in certain sectors or geographic regions, the benefits may not reach the poor, thereby limiting the impact on poverty alleviation (Adeleye et al., 2021). For this reason, inclusive financial systems are essential to ensure that the benefits of growth are equitably distributed.

Empirical studies on the link between financial development and poverty reduction have produced mixed results. While some research indicates that financial development promotes economic growth and indirectly reduces poverty, other studies suggest that its benefits are unevenly distributed, often bypassing the most vulnerable populations. For instance, limited access to financial services in rural areas and among low-income groups remains a significant barrier to poverty alleviation despite overall sector growth. Asongu and Odhiambo (2020) conducted an empirical study to explore the relationship between financial development and poverty reduction in African countries. Using panel data analysis, they assessed various indicators of financial development, such as credit availability, banking penetration, and financial sector depth, across multiple African nations. The findings indicate that while financial development plays a crucial role in promoting overall economic growth, its direct impact on poverty reduction is not always significant. The study attributes this limited impact to the unequal distribution of financial resources and the concentration of financial services in urban areas, leaving rural populations underserved. This underscores the importance of inclusive policies that target the financial needs of marginalized groups to maximize poverty reduction efforts.

Kebede (2020) analyzed the relationship between financial development and poverty alleviation in Nigeria using time-series data and an autoregressive distributed lag (ARDL) model to capture the long-run and short-run effects. The study found that although financial development has stimulated growth in formal financial sectors, this has not translated into significant poverty reduction. The unequal access to financial services, particularly in rural and informal economies, was identified as a key barrier. Most of the financial development has been concentrated in urban centers, leaving rural areas underserved. This disparity in access limits the potential for financial development to contribute meaningfully to poverty alleviation, particularly for those in rural regions. Ayyagari et al. (2019) conducted a cross-country study on the impact of financial development on poverty and inequality. They employed a generalized method of moments (GMM) approach to examine data from developing economies. Their findings revealed that while financial development is associated with poverty reduction, the distribution of benefits is often unequal, with the wealthier

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segments of the population benefiting more than the poor. The study emphasized that financial development should be accompanied by regulatory reforms aimed at increasing access for underserved groups to have a meaningful impact on poverty reduction.

Allen et al. (2016) conducted a study on the relationship between digital financial services and poverty alleviation in Sub-Saharan Africa using household survey data and econometric analysis. The findings indicate that digital financial services, including mobile banking, have significantly improved financial access for low-income populations, contributing to higher savings and investments. However, the study found that the full potential of digital financial services is often limited by regulatory barriers, lack of infrastructure, and low financial literacy, which restrict their widespread adoption in rural areas. Beck and Levine (2007) examined the relationship between financial development and poverty using cross-country data and a dynamic panel data model. Their study showed that financial development promotes economic growth, which indirectly leads to poverty reduction. However, they pointed out that the benefits of financial development are not evenly distributed across the population, with the poor often being excluded from financial services. The study recommended that policies aimed at improving financial development should also focus on enhancing financial inclusion to ensure that the benefits reach the poorest segments of society.

Honohan (2008) conducted a study on financial access and its impact on poverty using a global dataset of financial access indicators. Employing econometric analysis, the study found that countries with higher levels of financial access tend to have lower poverty rates. The findings suggest that financial inclusion is a critical component of poverty alleviation, as it allows the poor to access credit, savings, and insurance services. However, the study also highlighted that improving financial access alone is not enough; broader economic reforms and social policies are necessary to ensure sustained poverty reduction. Kpodar and Andrianaivo (2011) explored the impact of financial development and mobile banking on poverty reduction in Africa using a fixed-effects model with panel data. The study found that both financial development and mobile banking had a significant impact on poverty reduction, particularly in rural areas. Mobile banking, in particular, was found to lower transaction costs and improve financial access for the poor. However, the study cautioned that the success of mobile banking in reducing poverty depends on its widespread adoption and the presence of supporting infrastructure.

Ojo and Adeola (2024) examined the effects of microfinance institutions on poverty reduction in Nigeria, using household survey data and a propensity score matching (PSM) method to assess the impact. Their findings indicate that access to microfinance services leads to improved household income and reduced poverty rates. However, the study highlighted that high interest rates and limited financial literacy diminish the overall effectiveness of these institutions, necessitating reforms to improve financial education and service affordability.

Okoye et al. (2023) explored the relationship between financial development and poverty reduction in East Africa using a Generalized Method of Moments (GMM) approach. Their study revealed that while financial development boosts economic growth, its impact on poverty reduction is uneven. The benefits tend to concentrate in urban areas, leaving rural populations underserved. The authors recommend targeted policies to improve financial access in remote regions, emphasizing the need for rural banking reforms. Mensah and Abebrese (2024) studied the role of digital financial services in poverty reduction in Ghana, focusing on mobile money adoption. Using a difference-in-differences (DID) methodology, the study found that mobile money significantly increased household savings and investments, particularly among rural and low-income populations. However, the study pointed out that gender disparities in access to these services limit their broader impact, with women facing greater barriers to financial inclusion. Adedayo et al. (2024) examined the influence of financial sector reforms on poverty alleviation in West Africa using a structural equation modeling (SEM) approach. The study assessed how financial liberalization and regulation have affected access to financial services. The findings indicate that while reforms have expanded financial inclusion, their impact on poverty reduction has been modest due to weak enforcement of financial regulations and limited outreach to rural areas. The authors suggest that more robust regulatory frameworks are needed to ensure that financial development benefits all segments of society.

Despite the wealth of literature on financial development and financial inclusion, there is a notable gap in understanding the nexus between financial development financial inclusion, and poverty alleviation in Nigeria. While many studies focus on the macroeconomic effects of financial development on growth, few delve into how these effects translate into poverty reduction, particularly in rural areas. Additionally, the impact of specific financial inclusion initiatives, such as mobile banking and microfinance, on poverty remains under-explored. As noted by Ogunleye and Awotundun (2020), there is a need for further research to assess how financial literacy, interest rates, and digital financial inclusion interact with poverty dynamics in Nigeria. Addressing this gap is crucial for designing more effective poverty alleviation strategies that harness both financial development and inclusion.

3. RESEARCH METHODOLOGY

This study is based on the financial intermediation theory of Gurley & Shaw, (1960). The theory emphasizes the role of financial institutions in channeling funds from savers to borrowers. This theory provides the foundation for understanding how efficient financial systems can promote investment and economic growth, which are critical in poverty reduction efforts. The key assumption is that an efficient financial system enables the poor to access credit, improve savings, and invest in productive activities that can lift them out of poverty. The theory emphasizes the importance of strong financial institutions in poverty alleviation. It posits that well-developed financial institutions, such as legal and regulatory frameworks, reduce transaction costs, protect property rights, and provide inclusive access to financial services. According to the theory financial development positively affects poverty reduction when financial institutions are inclusive and robust. Thus, the study assumed that access to funds, an efficient financial system, and strong legal and institutional frameworks among others are necessary for financial development and financial inclusion to lessen poverty in Nigeria.

Model Specification

The financial intermediation theory (Gurley and Shaw, 1960) suggests that financial literacy, interest rates, and digital financial inclusion among others are necessary for poverty reduction. Given this, the nexus between financial development, financial inclusion, and poverty reduction can be stated thus:

$$\mathrm{PR} = \mathrm{f}(\mathrm{FD}, \mathrm{FI}, \mathrm{INFL}) \qquad (1)$$

According to equation (1), poverty reduction depends on financial development, and financial inclusion among others. In an explicit form, the model for analyzing the impact of financial development and financial inclusion on poverty can be expressed as:

$$PR = \alpha + \beta_1 FD + \beta_2 \quad FI + \beta_3 \quad INFL + \varepsilon \qquad (2)$$

In equation (2), PR is poverty reduction (dependent variable), measured using GDP per capita or poverty headcount ratios; FD is financial development (independent variable), represented by domestic credit to the private sector (% of GDP), FI is financial inclusion (independent variable), measured by bank access, mobile banking penetration, and microfinance access, INFL is the inflation rate and α is the constant term.β_1, β_2, & β_3 are the coefficients to be estimated, representing the effects of financial development, financial inclusion, and control variables on poverty alleviation while ε is the error term, capturing the variability not explained by the independent variables. This model allows the assessment of both financial development and financial inclusion effects on poverty.

Empirical Estimation

Using the ARDL model, the study will estimate the impact of financial development and inclusion on poverty. The ARDL model is well-suited for handling small sample sizes and mixed integration orders, which include variables integrated of order I(0) or I(1). It also allows for testing both short-run and long-run relationships. The ARDL approach is favored for its robustness in handling small sample sizes and its ability to distinguish between short- and long-term effects. Recent studies have successfully employed this method to analyze financial inclusion and poverty dynamics (Kebede, 2020).

Variable Selection

The research methodology involves conducting several econometric tests. First, the Augmented Dickey-Fuller (ADF) test is applied to determine the stationarity of the variables, whether the variables are stationary at levels or first differences. This is followed by the Bounds test to check for cointegration and to determine the presence of a long-term relationship between financial development, financial inclusion, and poverty reduction. Then, the Autoregressive Distributed Lag model (ARDL)is used to estimate both short-run and long-run effects of financial development and financial inclusion on poverty reduction.

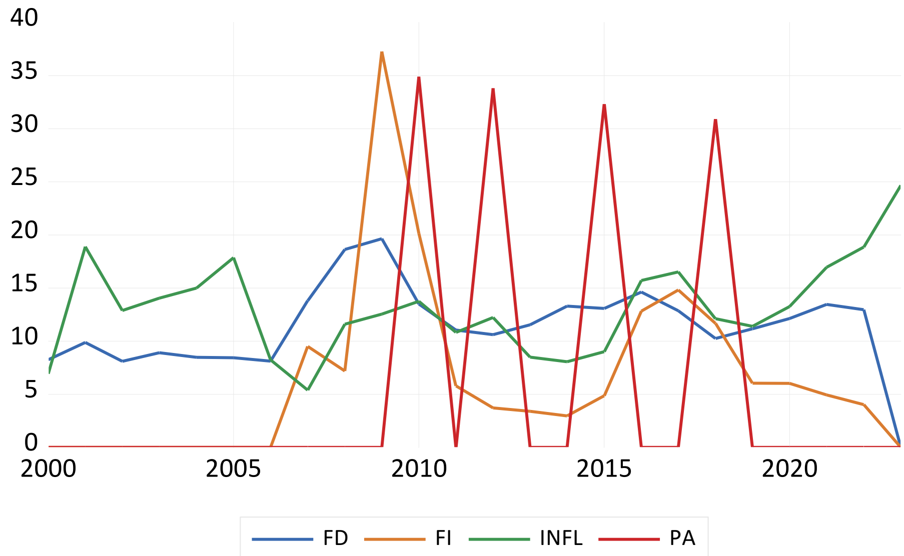
Data

The analysis utilizes secondary data from the World Bank, the Central Bank of Nigeria, and the National Bureau of Statistics (NBS). The data for the financial development are domestic credit to the private sector (% of GDP), and financial depth (bank assets, stock market development). The financial inclusion indicators include number of bank branches per 100,000 adults, mobile banking penetration rates, and access to microfinance institutions. The measurement of poverty is the poverty headcount ratio and Gini coefficient from 2000 to 2023.

4. RESULT AND DISCUSSION

This chapter presents a data analysis using various methods to analyze the economic effects of financial development and financial inclusion on poverty alleviation. It uses quantitative data analysis to present the results clearly and effectively with data visualization.

Trend Analysis



This reveals a dynamic relationship between Poverty Alleviation (PA), Financial Development (FD), Financial Inclusion (FI), and Inflation (INFL) over the observed years. PA exhibits intermittent surges in specific years, such as 2010, 2012, 2015, and 2018, while remaining dormant in most others. These periods of heightened poverty alleviation likely align with major economic reforms, policy shifts, or political events that directly or indirectly impacted financial development and financial inclusion. Financial Development (FD) experienced steady growth between 2000 and 2009, peaking in 2009 at 19.63, before entering a period of volatility in the subsequent years. This growth trajectory suggests robust financial systems during the early 2000s, possibly driven by reforms and economic expansion. However, the later decline, culminating in a drop to zero in 2023, may indicate systemic challenges such as weak regulatory frameworks, declining investor confidence, or adverse macroeconomic conditions.

Financial Inclusion (FI) started later in 2007, aligning with global efforts to expand access to financial services. FI saw rapid growth, peaking at 37.25 in 2009, reflecting strong integration into the financial system. However, this momentum was not sustained, as FI fluctuated significantly in subsequent years and dropped to zero by 2023, mirroring the decline in FD. The relationship between FI and INFL is particularly noteworthy years with high FI (e.g., 2009) correspond to moderate inflation rates, suggesting that inclusive financial systems may stabilize the economy by boosting credit access and reducing volatility. Conversely, the simultaneous decline in FI and rise in INFL after 2016 indicate financial system fragility, with inflation peaking at 24.66% in 2023. These patterns suggest that both political and economic factors play critical roles in shaping FD and FI, with inflation acting as both a cause and effect of financial instability. Integrating policies that promote financial inclusion and ensure macroeconomic stability could help reverse these unfavorable trends. Between 2007 and 2009, Financial Inclusion (FI) and Inflation (INFL) exhibited a simultaneous upward trend, with FI increasing from 9.50 in 2007 to a peak of 37.25 in 2009, while INFL rose from 5.39% to 12.54% over the same period. This parallel movement suggests a possible relationship rather than mere coincidence. The rise in FI during this period likely reflects efforts to expand access to financial services, such as credit and savings products, which may have stimulated economic activity and consumer demand. However, the increased demand could have contributed to inflationary pressures, particularly if supply-side constraints were present in the economy. Additionally, higher inflation may have prompted individuals and businesses to seek formal financial services to hedge against eroding purchasing power, further boosting FI. While this relationship points to potential causality, external factors, such as global economic conditions and domestic policies, could also have influenced both variables. Further analysis is needed to disentangle the direct impact of FI on INFL and vice versa and to account for any underlying factors driving these trends.

Descriptive Statistics

	FD	FI	INFL	PA
Mean	11.36031	6.462252	13.12700	5.495833
Median	11.34539	4.437907	12.70720	0.000000
Maximum	19.62560	37.25329	24.65955	34.90000
Minimum	0.000000	0.000000	5.388008	0.000000
Std. Dev.	3.877326	8.488680	4.462298	12.56920
Skewness	-0.455318	2.213634	0.496728	1.798935
Kurtosis	4.987606	8.348879	3.186525	4.253964
Jarque-Bera	4.779833	48.21122	1.021746	14.51710
Probability	0.091637	0.000000	0.599972	0.000704
Sum	272.6473	155.0940	315.0480	131.9000
Sum Sq. Dev.	345.7741	1657.327	457.9784	3633.650
Observations	24	24	24	24

Source: Authors' Compilation

The descriptive statistics of Financial Development (FD), Financial Inclusion (FI), Inflation (INFL), and Poverty Alleviation (PA) reveal important insights into their behavior over the 24 years. FD had a mean of 11.36, indicating moderate financial development across the years, with a standard deviation of 3.88, suggesting relatively stable changes. Its negative skewness (-0.4553) implies that most FD values are slightly above the mean, with a few low outliers. The kurtosis of 4.99 and a Jarque-Bera probability of 0.0916 indicate some deviation from normality but are not significant enough to completely discard normal distribution assumptions. This stability highlights consistent efforts toward financial development, though certain systemic shocks might have resulted in the observed deviations. FI, on the other hand, presents a different picture with a mean of 6.46 and a much higher standard deviation of 8.49, signaling considerable variation in financial inclusion levels over time. Its positive skewness (2.21) and high kurtosis (8.35) suggest a distribution with occasional extreme values, such as the peak of 37.25 in 2009. The Jarque-Bera test confirms significant non-normality in FI's distribution ($p = 0.000$), reflecting the sporadic and uneven implementation of financial inclusion measures.

Inflation (INFL) exhibits a mean value of 13.13, with a range between 5.39% and 24.66%, indicating periods of both stable and high inflation. The standard deviation of 4.46 suggests moderate variability, while its positive skewness (0.497) and kurtosis (3.19) indicate a near-normal distribution, supported by a Jarque-Bera probability of 0.60. These characteristics imply that inflation was largely consistent over time, with occasional spikes likely driven by macroeconomic imbalances. Political Actions (PA) demonstrate the most significant variability, with a mean of 5.50, a standard deviation of 12.57, and extreme values ranging from 0 to a maximum of 34.90. The high positive skewness (1.80) and kurtosis (4.25) suggest a distribution dominated by low or zero political activity, punctuated by occasional surges in politically active years. The Jarque-Bera test for PA confirms non-normality ($p = 0.0007$), aligning with the episodic nature of political events or reforms. Overall, while FD and INFL show relative stability, FI and PA exhibit substantial volatility, reflecting the influence of policy interventions, economic cycles, and structural challenges over the years.

Poverty Alleviation (PA) had significant activity in 2010, 2012, and 2018, with values of 34.9, 33.8, and 30.9, respectively, indicating heightened political engagement or reforms during these years. Such activity could influence economic indicators by introducing policies that stimulate financial development (FD) and financial inclusion (FI) or create macroeconomic instability that affects inflation (INFL). For FD, fluctuating levels are evident, with a peak in 2009 at 19.63, reflecting robust financial sector growth, likely driven by reforms or external investment, contrasted with a sharp low point of 0 in 2023, potentially signaling stagnation or systemic challenges. FI, introduced in 2007, shows high variability, peaking at 37.25 in 2009, suggesting significant policy interventions to improve access to financial services. However, this peak was not sustained, reflecting uneven implementation or external factors limiting progress. INFL trends highlight notable peaks, such as 24.66% in 2023, indicating severe price instability, and periods of decline, such as 5.39% in 2007, suggesting relative economic stability. These trends collectively reveal the interplay between political activity, financial sector dynamics, and macroeconomic conditions, underscoring the importance of consistent policies to stabilize and foster economic growth.

Correlation Analysis

	PA	FD	FI	INFL
PA	1	0.06236269380654981	0.2011442830237634	-0.1348827045355516
FD	0.06236269380654981	1	0.6700065047220566	-0.3591109066983125
FI	0.2011442830237634	0.6700065047220566	1	-0.0673554449868004
INFL	-0.1348827045355516	-0.3591109066983125	-0.0673554449868004	1

The correlation matrix provides valuable insights into the relationships between Poverty Alleviation (PA), Financial Development (FD), Financial Inclusion (FI), and Inflation (INFL). The weak positive correlation between FI and INFL (-0.067) suggests that while increased financial inclusion might slightly mitigate inflation, the relationship is negligible. This weak negative association could imply that expanding access to financial services, such as bank accounts or credit facilities, does not directly translate into significant inflation control. However, financial inclusion might still exert an indirect influence on inflation when combined with other factors like robust financial development or targeted policy actions. For example, greater inclusion in the financial system can enhance savings, investment, and productivity, which could stabilize prices over time. The analysis further shows that PA has a weak inverse relationship with inflation (-0.135), hinting that policy measures may play a modest role in curbing inflationary pressures. However, the limited strength of this relationship underscores the need for more impactful and coordinated policies to achieve tangible results in inflation stabilization.

The strong positive correlation between FD and FI (0.670) highlights the interdependence of financial systems and inclusion. A well-developed financial sector appears essential for fostering greater inclusion, as it provides the infrastructure and mechanisms needed to ensure access to credit, savings, and insurance products. Additionally, the moderate negative relationship between FD and INFL (-0.359) indicates that financial development could be a more effective tool for inflation control compared to financial inclusion alone. By promoting efficient allocation of resources, improving investment climates, and enhancing economic stability, financial development can help reduce inflationary pressures. The role of policy actions in strengthening these relationships is critical. While the correlation between PA and FD (0.062) is weak, it still suggests that well-designed and implemented policies can contribute to financial system improvements and, by extension, support inflation management. To gain deeper insights, future analyses could include regression modeling and causality testing to better understand the mechanisms through which financial inclusion, development, and policies collectively influence inflation.

UNIT ROOT

VARIABLES	ADF TEST STATISTICS	CRITICAL VALUE 5%	PROB.	ORDER OF INTEGRATION	REMARKS
PA	-5.671331	-2.998064	0.0001	I(0)	Stationary
FI	-5.308731	-3.004861	0.0003	I(1)	Stationary
INFL	-5.979019	-3.769597	0.0001	I(1)	Stationary
FD	-3.159913	-3.012363	0.0373	I(2)	Stationary

Source: Authors' Compilation

The table presents the results of the Augmented Dickey-Fuller (ADF) test, which is employed to determine the stationarity of the variables under study: Poverty Alleviation (PA), Financial Inclusion (FI), Inflation (INFL), and Financial Development (FD). Stationarity is a critical property in time-series analysis, as non-stationary variables can produce spurious regression results, misleading interpretations, and invalid inferences. The ADF test statistics are compared with the critical values at a 5% significance level, and the null hypothesis of non-stationarity is rejected if the test statistic is less than the critical value.

5. CONCLUSION

The findings reveal intricate relationships among financial inclusion (FI), financial development (FD), inflation (INFL), and poverty alleviation (PA). For instance, if higher FI is found to correlate with lower INFL, this aligns with economic theories that suggest financial inclusion fosters economic stability by broadening access to credit and enabling more efficient financial intermediation. Previous studies, such as those by Beck et al. (2020) and Levine (2019), highlight the role of financial inclusion in reducing inflationary pressures by diversifying economic activities and enhancing monetary policy effectiveness. Similarly, the positive influence of FD on FI supports studies by Demirgüç-Kunt et al. (2018), which emphasize that robust financial development frameworks enhance access to financial services.

The impact of PA on FI and FD suggests that political decisions and governance play crucial roles in shaping economic outcomes. This finding resonates with studies by Acemoglu and Robinson (2012), who argue that inclusive political institutions drive economic inclusivity. For example, policy interventions during certain years may have either accelerated or hindered FI and FD, depending on their alignment with broader economic objectives. Linking these findings to theoretical frameworks underlines the importance of coordinated policies that promote stability and growth.

Conclusion

The findings emphasize the dynamic interactions among financial inclusion, financial development, inflation, and political actions. FI and FD emerge as key drivers of economic stability and growth, while PA plays a critical role in shaping their outcomes. Notably, the sensitivity of FI to inflation highlights the importance of maintaining price stability to sustain inclusive financial systems. These results are highly relevant for policymakers, especially in economies characterized by instability or rapid economic transformation. By aligning political and economic strategies, governments can create an environment that promotes financial inclusion and development, ensuring broader access to economic opportunities while mitigating inflationary risks. This study underscores the need for comprehensive and forward-thinking policies to achieve sustainable and inclusive growth.

Recommendations

Policy-Level Recommendations:

1. Strengthen Financial Infrastructure: Policymakers should focus on building and maintaining resilient financial infrastructure that supports consistent financial inclusion. This includes enhancing digital payment systems, expanding banking networks, and reducing entry barriers for underserved populations.
2. Target Inflation Control Mechanisms: Inflation management should account for the dynamics of FI and FD. Flexible monetary policies that stabilize inflation without stifling financial inclusion initiatives are crucial to fostering inclusive economic growth.
3. The analysis suggests significant policy implications. For instance, targeted PA in specific periods that influenced FI or FD underscores the need for deliberate and well-coordinated policy frameworks. Policymakers should aim to align PA with economic goals by implementing reforms that strengthen institutional quality and economic

governance. Additionally, if FI exhibits sensitivity to INFL, inflation-targeting policies should accommodate financial inclusion efforts, ensuring that rising inflation does not erode the benefits of improved access to financial services.

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