IMPACT OF SMALL AND MEDIUM ENTERPRISES ON POVERTY RATE IN NIGERIA: 1992-2021

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DOI: https://doi.org/10.57233/ijamer.v2i3.011

Article History: Received: 15 July 2026 | **Revised:** 31 August 2026 | **Accepted:** 13 September 2026 | **Published:** 25 September 2026

How to Cite This Article :
Asemota, M. O., Anyanwu, S. O., Oyinlola, O., & Akomolafe, F. A. (2026). Impact of small and medium scale enterprises financing on poverty rates in Nigeria: 1992-2021. *International Journal of Accounting, Management and Economic Review, 2*(3). https://doi.org/10.57233/ijamer.v2i3.011

Abstract
Despite multiple interventions to enhance access to finance and boost the viability of small and medium sized enterprises (SMEs) in Nigeria, the country continues to experience high rates of poverty. The question that remains is whether there are differences in poverty rates across types of SME financing and whether their impact is short or long term. This study, therefore, investigates the impact of financing SMEs on poverty rate in Nigeria for the period 1992 to 2021, using the secondary data collected from annual publications. The variables used for the study were poverty rate (POV), aid and grants to SMEs (AGS), bank credit to SMEs (BC), SMEs credit scheme (SCS), per capita income (PCI) and unemployment rate (UMP). Autoregressive Distributed Lag (ARDL) bounds-testing approach used due to the mixture of level- and first-difference-stationary series. The results suggest that there is long run association between the variables as the error correction coefficient is found to be -0.620125 indicating that around 62.0% of the short run disequilibrium is being corrected during one period. In the short-run, AGS is negative and statistically significant, BC is positive and statistically significant, SCS is positive but not statistically significant at the 5% level, PCI is negative but not statistically significant at the 5% level, while UMP is positive and statistically significant. In the long run, AGS is negative and statistically significant, BC is positive but statistically insignificant, SCS is positive and statistically significant, PCI is negative but statistically insignificant, and UMP is positive and statistically significant. The findings therefore indicate that the poverty implications of SME financing are heterogeneous rather than uniformly poverty reducing. The study recommends sustained support for effective

grant programmes, improved access to appropriately designed bank finance, and stronger monitoring and evaluation of SME credit schemes.

Keywords: SME financing, poverty rate, unemployment, bank credit, aid and grants, SME credit scheme, per capita income, ARDL.

1.0 Introduction

Poverty reduction remains one of the most pressing macroeconomic challenges facing developing economies, particularly in Africa, where high poverty incidence has persisted despite policy interventions and economic reforms. Structural distortions, institutional weaknesses and macroeconomic imbalances can limit the extent to which economic growth translates into broad-based improvements in household welfare (Oyewo & Badejo, 2016). Nigeria illustrates this challenge: periods of economic growth have not automatically produced commensurate welfare gains for all households (World Bank, 2018).

SMEs are the key drivers of employment, income, and industrialisation in both the developing and advanced economies (Owusu, 2016; Olutunla, 2016; Hans, 2016; Swamy, 2016; Weiss, 2019; Akomolafe, Obida, & Gombe, 2024). Weiss (2019) goes on to state that the development of SME is a vital aspect of poverty eradication strategies, which supports the idea that the enhancement of the SME sector can bring important social and economic changes. In line with this perception, the World Bank (2018a) notes that the growth of SMEs is central to the alleviation of poverty and the inclusive growth.

SMEs are consequently important because they can support entrepreneurship, production, employment and household income. Their potential contribution to poverty reduction, however, depends partly on their ability to obtain adequate and affordable finance (Oni, 2006; Raifu, 2019; Akomolafe, Obida, & Gombe, 2024). As a result, financing of SMEs allows governments across the world to place greater importance on the need to attain sustainable growth and poverty alleviation (Piprek, 2018).

Although the role of SMEs cannot be underestimated, its ability to alleviate poverty in Nigeria is limited to a variety of problems, with insufficient financing being one of the most critical ones. It has been empirically established that SMEs in Nigeria are characterized by inaccessibility to credit facilities and a lack of working capital and financial marginalization that limits their ability to growth and generate income-generative opportunities (Okafor, 2018; Yaron, 2018).

SME financing can affect poverty through several channels. Bank credit can provide working capital and investment funds that enable firms to increase production, maintain operations, acquire productive assets and potentially expand employment. Aid and grants can relax financing constraints without creating the repayment burden associated with loans, thereby supporting enterprise survival and investment. SME credit schemes can provide targeted or subsidized finance to enterprises that may be excluded from conventional banking. Through these channels, improved enterprise activity may increase income and employment and thereby contribute to lower poverty. The actual effect, however, depends on access to finance, the cost of finance, the productive use of funds, targeting and implementation quality Okafor, 2018; Yaron, 2018)

More studies point to financial limitations as compounded by other structural issues such as inadequate infrastructure, high production prices and unfavourable business environment (Oladeebo, 2018; Odeniran and Udeaja, 2019; Ogbuanu and Kabuoh, 2017). Such obstacles deter the output of the SMEs, and deter its ability to act as a sure way out of poverty. The shortage of

cheap financing sources, according to Okwu (2017), is a disadvantageous issue that hinders the growth of SMEs in Nigeria and, consequently, their role in alleviating poverty.

Despite the existing studies on the connection between SMEs and economic growth in Nigeria (Moghalu, 2018; Muritala, 2019; Awoloja, 2019; Bako, 2019; Nwankwo, 2018; Migap et.al, 2019; Mckinnon, 2017; Anderson, 2018; Gregori and Lee, 2018; Maduka and Weiss, 2019), there is no unanimity in According to some researchers, SME financing has a significant beneficial impact on the reduction of poverty (Amadi, 2018; Tesfaye, 2015; Jibril, 2019; Tefera, 2017), and some researchers show no significant correlation or even mixed results (Benson, 2017; Okey, 2016; Oluwarotimi and Adamu, 2017). These contradictions underscore the fact that there is a need to conduct more empirical research on the role of financing in determining the SME performance and the consequences of poverty in the Nigerian context.

Since SMEs are crucial to economic inclusion and the existing empirical evidence is not consistent, there is need to study how effective SME financing can be in alleviating poverty in Nigeria. Having an insight into this relationship is essential in designing specific financing systems and policy interventions that will enable the SME to generate sustainable sources of income to low-income households. More to the point, the findings obtained that way can provide an overview of how the Nigerian government can reinforce SME-based strategies of alleviating poverty.

Accordingly, this study examines the relationship between three forms of SME financing aid and grants to SMEs, bank credit to SMEs and SME credit schemes and the poverty rate in Nigeria, while controlling for per capita income and unemployment. The study focuses on poverty as the dependent variable throughout, thereby aligning the research objective, model and empirical analysis.The rest of the study is divided into five chapters. In Section One, the introduction has been provided, Section Two addresses the existing literature and theoretical views, Section Three is the methodology, Section Four is the presentation of the data and the findings, and finally, Section Five is the conclusion and recommendations to policies.

2.0 Literature Review

Small and medium-scale enterprises are defined differently across countries and institutions, commonly using criteria such as number of employees, asset value, turnover and ownership structure. The supplied literature notes that Nigerian institutions have historically applied different thresholds. This variation makes it important for empirical studies to define the financing variables used rather than assuming that all SME finance represents the same type of intervention (Nwankwo, 2018). Some are oriented towards organizational attributes, where micro and small firms are privately owned, managed independently, and have small market shares (Awolaja, 2019; Udeaja, 2019; Akomolafe, Obida, & Gombe, 2024). Micro enterprises are also very important in the informal sector and tend to grow with time (Okwu, 2017).CBN (2015) uses a larger range of indicators assets, turnover, and employment, categorizing the medium firms with assets below N150 million and employing fewer than 100 employees and the small firms with assets and turnover below N1 million and fewer than 50 employees. NASSI (2014) follows the same criteria but implies slightly different thresholds whereas NASME (2005) provides one more classification. A tiered structure of the micro, small, and medium enterprises is given by National Council on Industry (2001) on the basis of workforce and capital requirements.

SME financing is the procedures and mechanisms by which small and medium-scale enterprises are able to obtain the finances to establish, operate, and grow. According to parish (2016), finance refers to the accessibility of money at a particular time, and access to money is fundamental to the operation of any business endeavor. Similarly, Egbetunde (2018) defines finance as the management of financial flows in organizations, either in the case of the private, public, or financial institutions. This view indicates that finance is the key aspect in organising organisational resources to ensure that operations are maintained to accomplish preferred results. This is evident in (Howard and Upton, 2017; Onumah and Amadi (2018); Solomon, 2016). Marktanner (2018); holds that finance is about finding priorities of expenditure, deciding how the resources should be used at a specific time, and making sure that the available resources are used effectively. Financing is also described by Harwood and Konidaris (2019) as the organisation of the flows of funds in a strategic way to facilitate operational effectiveness and achievement of business objectives. Essentially, the former (Ephraim, 2019) and the latter (Walker and William (2016); Marktanner, 2018) have been connected to this issue.In essence, the former (Ephraim, 2019) and the latter (Walker and William (2016); Marktanner, 2018) have been linked to the issue.

SME financing refers to the availability and use of financial resources for establishing, operating and expanding small and medium-scale enterprises. In this study, SME financing is represented by aid and grants to SMEs (AGS), bank credit to SMEs (BC) and SMEs credit scheme (SCS). These are treated as distinct financing channels because their repayment conditions, targeting and institutional mechanisms may differ.

Haughton & Khandker (2009) defined poverty as a "significant deprivation in well-being." Well-being may be defined either narrowly or widely, depending upon its interpretation. Restricted conceptions of well-being are often associated with commodities, specifically with whether families or individuals have sufficient resources to satisfy their requirements. Poverty is mostly seen in financial terms of family income or consumption (Haughton & Khandker, 2009). Poverty is inherently multidimensional and manifests in various forms, including inadequate material income to ensure a satisfactory standard of living; hunger and malnutrition; illness; restricted access to education and healthcare; elevated mortality and morbidity rates due to disease; homelessness and inadequate housing; unsafe environments; and social exclusion and discrimination (Ogbeide et al., 2015; Akomolafe, Agunbiade, & Ndayako, 2018).

Poverty may be classified as absolute or relative; according to Todaro & Smith (2011), absolute poverty refers to the amount of individuals who cannot attain the basic standards of income, food, clothes, healthcare, housing, and other necessities. They observed that these figures represent the sum of individuals living below a defined minimal threshold of real income, known as the worldwide poverty line. The line transcends national borders, is unaffected by variations in national per capita income, and considers varying pricing levels (Landu, Akomolafe**,** Ogundele, Adewumi, Gwari, Tanko, & Umar, Ogunforowa, and Ibrahim, 2022).

The degree of deprivation linked to poverty is a relative notion that fluctuates with alterations in the overall quality of life, independent of inflationary increases (Apela, Akomolafe, Shindali, & Omikunle, 2024). Poverty can be understood as deprivation in material and broader dimensions of well-being. In income-based approaches, it is commonly associated with insufficient resources to meet basic needs. Broader approaches recognize deprivation in areas such as health, education, housing, nutrition and social participation. The present study uses the poverty rate series reported

in the underlying secondary data and therefore focuses empirically on the monetary/aggregate poverty measure represented by POV.

Financial Intermediation Theory

The financial intermediation theory was first developed in the 1960s, the landmark work being the publication by Gurley and Shaw in 1960. Financial intermediary refers to something or somebody that acts as an intermediary among numerous parties, in order to facilitate financial transactions. The 2013 Global Shadow Banking Monitoring Report recognizes the following types as popular: commercial banks, investment banks, stockbrokers, insurance and pension funds, pooled investment funds, leasing companies and stock exchanges. As a result the financial intermediary will mediate the indirect distribution of funds between lenders and borrowers; that is, the savers (lenders) give funds to an intermediary (say a bank), who in turn lend to borrowers. The term financial disintermediation can be said to be a direct lending of funds to the borrowers through the financial markets and therefore removing the financial intermediary (Global Shadow Banking Monitoring Report, 2013).

The current theory of financial intermediation studies the functions of financial intermediaries, their effects on the entire economy as well as government policies on the financial intermediaries. The theory of financial intermediation explains the importance of the financial intermediaries in the economy, and most of the studies conducted on the subject have emphasized the role of financial intermediaries in achieving sustainable economic growth and the influence of regulations on the financial intermediation, especially on the role of central bank in the regulation, supervision and monitoring of financial intermediaries. The financial intermediation theory, which was founded on the principle of informational asymmetry and agency, holds that high transaction costs, the inability to access full information at the right time and regulatory regimes explain the existence of financial intermediaries.

Financial intermediation is an important tool in reducing poverty because it enhances access to credit, savings instruments, and risks management services by households and small enterprises. Through the reduction of information and transaction costs, intermediaries allow poor and financially locked out populations to gain access to financial services that they would not have otherwise or have been too expensive to access. With the help of microcredit, mobile banking, cooperative banking, and inclusive savings products, the financial intermediaries would redirect resources to productive activities, entrepreneurship, education, and consumption smoothing.

Furthermore, good regulation improves stability and accessibility of financial intermediaries, securing the vulnerable population to predatory lending, financial crisis and market failures. Consequently, the financial intermediation system does not only sustain the economic growth but also inclusive development, lessens income inequality, and plays a key role in alleviating poverty on a long-term basis.

Neoclassical Growth Theory

Neoclassical Growth Theory provides a complementary explanation of how finance may influence poverty through productive capacity. Capital accumulation, labour utilization and improvements in productivity affect the capacity of firms and the wider economy to produce goods and services. SME finance can facilitate investment in working capital, equipment and business expansion, while successful enterprise expansion can increase labour demand and household income.

The two theories are therefore complementary rather than competing in this study. Financial intermediation theory explains the financing-access and allocation mechanism, while Neoclassical Growth Theory explains how financed productive activity can translate into changes in output, employment and income. Poverty is the ultimate outcome variable. PCI is included as an income-related control variable, while UMP captures an important labour-market condition that is expected to be positively associated with poverty.

Previous Nigerian studies have examined SME financing, entrepreneurship financing, financial inclusion and poverty using different proxies and methods. Adeyemi et al. (2020) reported heterogeneous effects across sectors, with some forms of financing associated with poverty eradication in particular horizons. Ibi-Oluwatoba et al. (2020) found a long-run relationship between SME-related variables and poverty but reported mixed coefficient signs and an insignificant error-correction mechanism. George et al. (2020) similarly reported that different categories of entrepreneurship financing did not have identical effects across the short and long run. Ajala and Fakoya (2019), using primary data, found that small-scale business activities were associated with poverty alleviation but also identified finance and infrastructure as important constraints.

The literature therefore suggests three important distinctions. First, SME financing is an input, whereas enterprise performance, employment and poverty are different outcomes; they should not be treated as interchangeable. Second, financing instruments may have different effects because grants, bank loans and targeted credit schemes differ in cost, eligibility, targeting and repayment requirements. Third, short-run and long-run effects may differ because financing may take time to translate into investment, production and household income. The present study contributes by estimating the relationship between three disaggregated SME-financing indicators and poverty within a single ARDL framework over 1992–2021, while controlling for PCI and UMP.

3.0 Methodology

Ex post facto research design is used for the study, in which one or more variables has already existed and the investigator cannot control them; that is, the researcher studies the variables as they have been from the past. The design is suitable for analyzing statistical relationships for macroeconomic time-series variables. Importantly, there is no causal inference to be made with the ex post facto design by itself, and these results are taken as evidence of dynamic associations and relationships.

Data Sources and Measurement of Variables

The study uses secondary annual data covering 1992–2021, giving 30 observations. The Data on AGS, BC and SCS were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin (2021), while PCI and UMP were obtained from the World Development Indicators (WDI). The poverty rate series was also used as the dependent variable. The data description reports the SME-financing variables in billions of naira and PCI, UMP and POV in their reported monetary or percentage units.

Table 1
Definition and Measurement of Variables

Variable	Definition/operational measure	Unit/source
POV	Poverty rate used as the sole dependent variable	Percent; underlying study dataset
AGS	Aid and grants to SMEs	₦ billion; CBN Statistical Bulletin (2021)
BC	Bank credit to SMEs	₦ billion; CBN Statistical Bulletin (2021)
SCS	SMEs credit scheme	₦ billion; CBN Statistical Bulletin (2021)
PCI	Per capita income used as an income-level control	Reported series; WDI
UMP	Unemployment rate used as a labour-market control	Percent; WDI

Source: Author 's Computation, 2025.

The relevant variables data include gross domestic product per Capital that is a factor of initial level of income used in billions of Naira, commercial bank loans to SMEs used in billions of Naira, aid and grant to SMEs used in billions of Naira, credit scheme to SMEs used in billions of Naira and a percentage of unemployment and poverty.

Model Specification
The model specification of the variables in this study is determined. The study model is based on the Aderemi et al. (2020) that studied SMEs financing and poverty eradication in Nigeria. This model is given as follows:

PVT = f (AC, MS, MFPC, MNQC, AGGC) 1

Where:
PVT = Poverty level
AC = Agriculture and forestry business financing. MS = money supply
MFPC = Manufacturing and food processing business financing
MNQC =Mining and quarrying business financing
AGGC = Aggregate commercial banks financing of SMEs
This was done by altering the model where they could offer financing to SMEs such as bank credit, assistance, grants and SME credit programmes. Finally, per capita income was introduced in the model as the explanatory control variable; therefore, the model of this study is as follows:

POV = f(AGS, BC, SCS, PCI, UMP)..... 2

Where:
PCI is Per Capita Income used to capture the initial level of income
AGS is Aid and Grants to SMEs
BC is Bank Credit to SMEs
SCS is SMEs Credit Scheme

UMP is Unemployment
POV is Poverty Rate
In explicit form, the model takes the form:

$POV_t = \lambda_0 + \lambda_1 AGS_t + \lambda_2 BC_t + \lambda_3 SCS_t + \lambda_4 PCI_t + \lambda_5 UMP_t + \mu_2$ 3

$\mu_1 \sim IID\ (0, \sigma^2)$
Where,
λ_0 to λ_5 are also parameters
μ_1 is the disturbance term

Instructively, the ARDL modelis specified as:

$$\Delta POV_{t-} = \lambda_0 + \sum_{j=1}^{m} \lambda_{1j}\, \Delta POV_{t-j} + \sum_{j=1}^{m} \lambda_{2j}\, \Delta AGS_{t-j} + \sum_{j=1}^{m} \lambda_{3j}\, \Delta BC_{t-j} + \sum_{j=1}^{m} \lambda_{4j}\, \Delta SCS_{t-j} + \sum_{j=1}^{m} \lambda_{5j}\, \Delta PCI_{t-j} + \sum_{j=1}^{m} \lambda_{4j}\, \Delta UMP_{t-j} +$$

$$+ \delta_1 AGS_{t-1} + \delta_2 BC_{t-1} + \delta_3 SCS_{t-1} + \delta_4 PCI_{t-1} + \delta_5 UMP_{t-1} + \delta_6 ECM_{t-1} + U_t \quad ----------4$$

From equation 3, λ_1- λ_6 are long run parameters while $\delta_1 - \delta_5$ are short run parameters but δ_6 is Error Correction Mechanism (ECM) for poverty equation.

Aprori Expectations
The indicators of SME financing will bear a negative indication on poverty rate. This means that 0ne of the effects of financing of SMEs should be poverty reduction. On the same note, the effect of PCI income on the rate of poverty is also likely to be negative. That is, when there are growth in PCI, then poverty rate must also decrease. But it is assumed that the positive influence of unemployment should be on poverty. This means that job losses will lead to poverty increment. Accordingly, the apriori expectations are stated as follows: λ_1,λ_2, λ_3 and $\lambda_4 < 0$ and while $\lambda_5 > 0$

ARDL Estimation Procedure
The analysis proceeds in four stages: (i) testing the time-series properties using the Augmented Dickey Fuller (ADF) test; (ii) testing for a long-run relationship using the ARDL bounds test; (iii) estimating short-run and long-run coefficients; and (iv) evaluating residual diagnostics and parameter stability using normality, serial-correlation, heteroskedasticity, CUSUM and CUSUM of squares tests.

4.0 Data Analysis and Discussion Of Results
Descriptive Statistics
The Summary statistics as derived through E-Views 10.0 shows the Mean, Median, Maximum, Minimum, Standard Deviation, Skewedness, Kurtoise, Jacque-Bera and Probability of each of the variables as presented in Table 2:

Table 2:
Descriptive Statistics of Variables

	UMP	POV	BC	AGS	SCS	PCI
Mean	20.43733	55.68367	7915.938	287.9547	151.7912	1.522333
Median	18.96000	56.55000	7817.220	325.4300	138.8547	1.810000
Maximum	35.21000	72.00000	19909.75	593.1800	258.7257	12.28000
Minimum	13.54000	33.10000	205.6100	13.15000	79.85829	-4.510000
Std. Dev.	5.135725	10.77877	6580.545	193.8166	45.30174	3.675882
Skewness	1.574072	-0.434651	0.329204	-0.165567	0.790619	0.422256
Kurtosis	4.767411	1.986504	1.706822	1.582795	2.956651	3.820107
Jarque-Bera	16.29319	2.228578	2.632262	2.647649	3.127743	1.732220
Probability	0.000290	0.328148	0.268171	0.266116	0.209324	0.420584
Sum	613.1200	1670.510	237478.1	8638.640	4553.736	45.67000
Sum Sq. Dev.	764.8946	3369.274	1.26E+09	1089382.	59515.18	391.8511
Observations	30	30	30	30	30	30

Source: Author ‘s Computation, 2025.

From the descriptive statistics, all the variables have equal number of observations which is Thirty (30) observations each. Table 2 shows the summary statistics, which include: the mean, median, maximum, minimum, standard deviation, skewness, kurtosis and Jarque-Bera for the variables. It shows that the UMP, POV, BC, AGS, SCS and PCI have average probability statistics values of 20.437, 55.683, 7915.93, 287.95, 151.79 and 1.522 respectively. It also shows the minimum probability values of 13.54, 33.10, 205.61,13.15, 79.858 and -4.51 for the variables (UMP, POV, BC, AGS, SCS and PCI) and the maximum probability values of 35.21, 72.00, 19909.75, 593.18, 258.7257 and 12.28 for the variables respectively. The Jargue-Bera (J-B) statistics shows the variables; POV, BC, AGS, SCS and PCI are normally distributed while the J-B statistics for the variable: UMP is non-normally distributed.

Kurtosis, the last measure, determines how light- or heavy-tailed the dataset is in comparison to a normal distribution. Because the SCS value is near three (3) and shows that the tails are neither unduly heavy nor too light in relation to a normal distribution, the distribution is known as mesokurtic. On the other hand, the POV BC and AGS distributions are platykurtic since their kurtosis is smaller than three (3). On the other hand, UMP and PCI's leptokurtic distribution indicates that more data points will be at the tails since their kurtosis values are significantly higher than three (3), which indicates the prevalence of extreme values in the data set. The tail will be longer in dispersion and fatter under these circumstances.

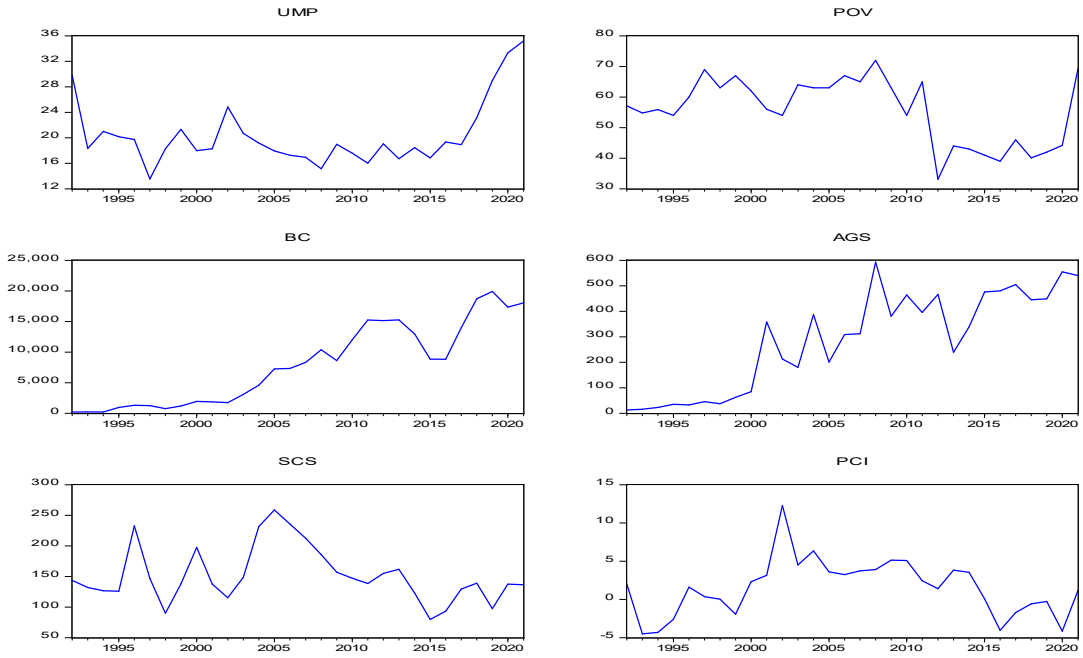


Fig 1: Trend Analysis for UMP, POV, BC, AGS, SCS and PCI

Graphically, the trend analyses shows that the variables fluctuate at one point or the other during the period under review. This was attributed to the effects of international economic events, government policy and economic conditions that would have had attendant effects on some of the variables.Fig 1 shows the trend analysis for the UMP, POV, BC, AGS, SCS and PCI for the period of 1992 to 2021 where upward and downward trends were observed in the variables. In other words, there were fluctuations in the UMP, POV, BC, AGS, SCS and the PCI over the period 1992-2021. The graphs of BC and AGS moved almost in the same direction with positive and continuous increases over the years. In other words, the values of UMP and POV continue to rise steadily from 2012 to 2015 respectively, with positive values up to 2021. The graph of SCS and PCI rises continuously but fluctuations occurred from to time. Finally, the trend analysis for SCS and PCI on Fig 1 shows that there is clear upward and downward movement in SCS, it first got to its peak in 2005 and fell in 2006, then picked up again in 2013 and continuously fell up to 2015. Though the SCS fluctuates over time with upward movement while PCI experienced similar trend from 1993 to 2021. The trend shows that PCI is even negative from the origin and rose from the year 1996 to 1998, before it fell again. However, there was an upward movement in the PCI from 2000 to 2002 where it got to its peak and fell continuously until 2016, when it became negative and then rises again until 2019 before it declines into negative in 2020.

Unit Root Test

Table 3:

Unit Root Test Result

Time Series	ADFStatistics at level	Critical Value at level		ADF Statistics at 1st Diff	Critical Value at 1st Diff		Stationary Status at 5%
AGS	-4.545340	-4.309824*	1% level	-8.967188	-4.323979*	1% level	(0)
		-3.574244**	5% level		-3.580623*	5% level	
		-3.221728***	10% level		-3.225334***	10% level	

BC	-4.072836	-4.323979*	1% level	-4.754061	-4.339330*	1% level	(0)
		-3.580623**	5% level		-3.587527**	5% level	
		-3.225334***	10% level		-3.229230***	10% level	
SCS	-2.023185	-4.339330	1% level	-6.096371	-4.339330*	1% level	(1)
		-3.587527	5% level		-3.587527**	5% level	
		-3.229230	10% level		-3.229230***	10% level	
PCI	-2.675497	-4.309824	1% level	-7.261213	-4.323979*	1% level	(1)
		-3.574244	5% level		-3.580623**	5% level	
		-3.221728	10% level		-3.225334***	10% level	
POV	-2.546645	-4.309824	1% level	-6.772254	-4.323979*	1% level	(1)
		-3.574244	5% level		-3.580623**	5% level	
		-3.221728	10% level		-3.225334***	10% level	
UMP	-2.107177	-4.309824	1% level	-7.729983	-4.323979*	1% level	(1)
		-3.574244	5% level		-3.580623**	5% level	
		-3.221728	10% level		-3.225334***	10% level	

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

Table 3 contains the unit root results The ADF results. The results indicate that AGS and BC are stationary in levels at the reported 5% decision rule, while SCS, PCI, POV and UMP become stationary after first differencing. No variable is reported as I(2). This mixture of I(0) and I(1) variables supports the use of the ARDL bounds approach.

ARDL Bound Test Results

Table 4:

ARDL Bound Test Results

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	26.81873	10%	2.08	3
K	5	5%	2.39	3.38

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

Table 4 shows the result of the ARDL bound test to cointegration. The estimation showed the existence of a cointegrating relationship. The value of F-statistics for the model 26.81873, which are greater than the lower and upper bound values at a 5% significance level. Then, we conclude that there is a long-run relationship between the variables.

Lag length Selection
Table 5:
Lag length Selection

VAR Lag Order Selection Criteria						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-825.0546	NA	2.19e+19	61.55960	61.84756	61.64523
1	-746.0320	117.0705*	9.72e+17	58.37274	60.38849	58.97213
2	-707.5311	39.92690	1.26e+18	58.18749	61.93102	59.30063
3	-622.7935	50.21486	1.58e+17*	54.57730*	60.04861*	56.20420*

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

Table 5 presents different optimum lags that can be used for the specified output equation.Lag 3 is the maximum lag because it has the lowest reported AIC, SC, HQ and FPE values. The AIC is stated as the principal criterion for optimum lag length selection.

Data Analysis
ARDL Error Correction Regression
Table 6:
ARDL Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(AGS)	-0.029008	0.003748	-7.739233	0.0006
D(BC)	0.001086	0.000228	4.761508	0.0051
D(SCS)	0.005830	0.009921	0.587641	0.5823
D(PCI)	-0.329435	0.132754	-2.481535	0.0557
D(UMP)	1.079181	0.189766	5.686912	0.0023
CointEq(-1)*	-0.620125	0.030514	-20.32261	0.0000
R-squared = 0.986621 Adjusted R-squared = 0.968378				
DW stat = 2.188882				

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

Table 6 shows the ARDL model of short-run analysis.The short-run coefficient on AGS is −0.029008 and statistically significant (p = 0.0006), indicating an inverse short-run association between aid/grants to SMEs and the poverty rate. BC has a positive and statistically significant coefficient (0.001086; p = 0.0051), indicating that higher bank credit is associated with a higher poverty rate in the short run. SCS has a positive but statistically insignificant coefficient (0.005830; p = 0.5823). PCI has a negative coefficient but is not statistically significant at the 5% level (p = 0.0557); therefore, it should not be described as statistically significant under the conventional 5% threshold. UMP has a positive and statistically significant coefficient (1.079181; p = 0.0023).

The error-correction coefficient is negative and highly significant (−0.620125; $p < 0.01$), indicating convergence toward long-run equilibrium. Approximately 62.0% of the previous period's disequilibrium is corrected within one period.

Long-Run Estimation Results

Table 7:

Long-Run Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AGS	-0.084134	0.031958	-2.632590	0.0464
BC	0.001428	0.000969	1.472914	0.2008
SCS	0.469673	0.103785	4.525443	0.0063
PCI	-0.162369	0.626808	-0.259041	0.8059
UMP	3.794207	0.988788	3.837230	0.0122
C	-72.99852	29.76795	-2.452252	0.0578

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

Table 7 is the long run regression analysis for the estimated model. In the long run, AGS has a negative and statistically significant coefficient (−0.084134; $p = 0.0464$), indicating an inverse relationship with poverty. BC has a positive but statistically insignificant coefficient (0.001428; $p = 0.2008$), so the study does not find statistically significant evidence of a long-run association between bank credit to SMEs and poverty in this specification. SCS has a positive and statistically significant coefficient (0.469673; $p = 0.0063$), indicating a positive long-run association with poverty. PCI has a negative but statistically insignificant coefficient (−0.162369; $p = 0.8059$). UMP has a positive and statistically significant coefficient (3.794207; $p = 0.0122$).

Diagnostic Tests

Table 8:

Diagnostic Tests

Tests	Coefficient	P-Value
Jarque-Bera Residual Normality Test	1.798143	0.406947
Serial Correlation LM Test	2.261618	0.2518
Residual Heteroskedasticity Test	1.142281	0.4857

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

The diagnostic results indicate that the residuals do not significantly depart from normality, there is no statistically significant evidence of serial correlation, and the heteroskedasticity test does not reject the null of homoskedastic residuals at the 5% level.

Stability Test

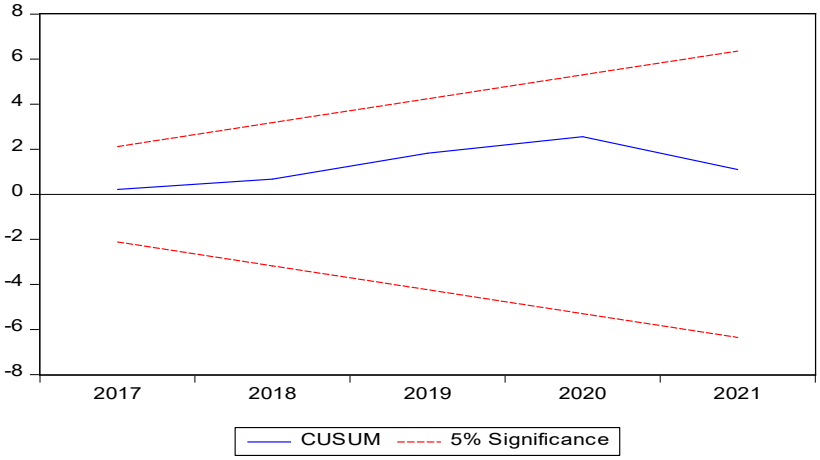


Fig 2: Stability Test: CUSUM

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

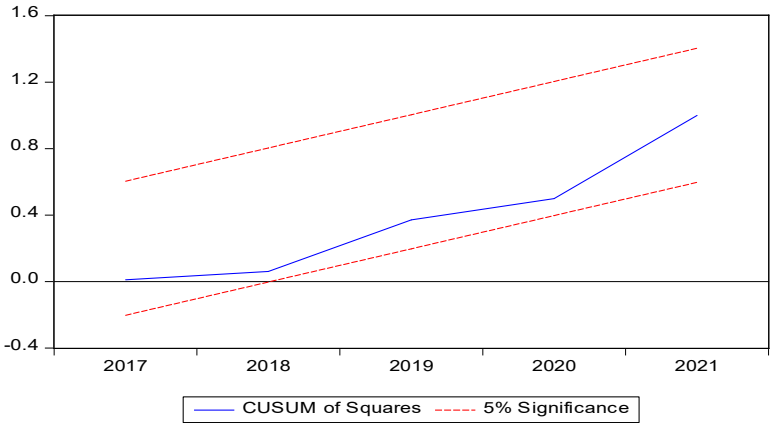


Fig 3: CUSUM of Squares

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

The CUSUM and CUSUM of squares plots are reported as remaining within the 5% critical boundaries over the available sample period. This supports parameter stability for the estimated ARDL model. The stability evidence is interpreted as a diagnostic result and not as proof that no economic structural changes occurred during 1992–2021.

Causality Test

Table 9: Causality Test

Pairwise Granger Causality Test

Null hypothesis	F-statistic	p-value	Decision
UMP does not Granger Cause POV	3.02038	0.0398	Reject
POV does not Granger Cause UMP	3.46845	0.0382	Reject
AGS does not Granger Cause POV	1.62556	0.2186	Do not reject

POV does not Granger Cause AGS	2.37972	0.1150	Do not reject
BC does not Granger Cause POV	2.74054	0.0456	Reject
POV does not Granger Cause BC	5.09719	0.0147	Reject
SCS does not Granger Cause POV	0.25432	0.7776	Do not reject
POV does not Granger Cause SCS	2.73624	0.0459	Reject
PCI does not Granger Cause POV	153.499	<0.001	Reject
POV does not Granger Cause PCI	522.173	<0.001	Reject

Source: Researcher's Computation Using E-Views Software, Version 10.0, (2024)

The pairwise Granger results indicate bidirectional predictive precedence between UMP and POV, between BC and POV, and between PCI and POV. There is no statistically significant predictive precedence between AGS and POV in either direction. The relationship between SCS and POV is one-directional in the reported results, running from POV to SCS. Granger causality is a statement about predictive content in the time series; it should not be interpreted as proof of structural causation.

Discussion of Findings

From the analysis of results of ARDL model, the findings show that SMEs financing through aid and grant to SMEs (AGS) has a negative significant impact on POV, in short and long run, respectively. This means that SMEs financing lead to poverty reduction in Nigeria. This finding aligns with those of (Tefera, 2017), Yusuf (2018), Akighir (2017), Ajala and Fakoya (2019),Jibril (2019) who also concluded that SMEs financing ultimately lead to poverty reduction.This result confirms the apriori expectation, and supports the position of the economists who are of the opinion that SMEs contributes to economic growth in the country. These economists are of the opinion that LDCs such as Nigeria cannot cope with overreliance on the public sector for employment creation. This study also confirms the neoclassical growth theory which state that the productive capacity of the economy changes in quantities of factors of production account for growth in the economy.

Furthermore, bank credits (BC) have a positive insignificant impact on poverty in Nigeria. In other words, access to bank credits by SMEs could not reduce poverty rate in Nigeria. Although, it is expected that access to bank credit should create jobs and reduces poverty rate but the result in this study further reveals that access to bank by SMEs was unable to reduce poverty which may be due to high interest rate and other factors envisaged. Aid and grant to SMEs (AGS) and SMEs credit scheme (SCS) has a negative significant impact on POV long run, respectively. This is not far from expectation because in a situation where SMEs could receive aid from government at all levels and also have access to credit schemes either from government or private sectors which always come with little or no interest rate with intention to empower citizens, there is certainty that such intervention will lead to poverty reduction and accelerate growth in the country.

The results also shows that SMEs financing through credit scheme (SCS) has not done so much to reduce poverty in Nigeria for the period under investigation. These results did not conform

with apriori expectation because it is expected that access to credit schemes by SMEs in Nigeria will lead to reduction in poverty. This result could happen in a situation where there are diversion credits or where the schemes failed to reached target SMEs that supposed to be the users of the fund. As such, the growth and development of SMEs will be retarded in a way that causes poverty to increase as well. Also, corruption, bureaucratic and bottleneck could be other factors that are responsible for SMEs credit scheme (SCS)not to have a meaningful impact on SMEs because sometimes, government officials use that opportunity to cat away public fund to himself where the beneficiaries will be denied access completely through unnecessary bureaucratic and bottlenecks. The study also noted that per capita income which signifies the initial income level has significant impact on poverty in the short run. This implies that, based on the level of increase in per capital income as shown in the study will only reduce poverty in the short run. In other words, income per head will only enable workers to hardly meet up with day to day transaction or daily needs. That is, living from hand to mouth. In a situation like this, poverty reduction is not sustainable in the long run but only happens in the short term.

The study further reveals that unemployment rate has a positive significant impact on poverty both in the short run and long run, respectively and there is bidirectional relationship between unemployment and poverty rate. This implies that unemployment rate granger causes poverty rate, and poverty granger causes unemployment in Nigeria. These results concord with apriori expectation. By implication, if there is increase in unemployment, there will be corresponding increases in poverty rate. The more people are jobless, the more there will be increase in poverty rate. What happen is that if people are gainfully employed, they will be empowered and received income that will enable them to patronize firms. This will enable firm to produce more because demand in goods and services has increased. Then, there is need to expand production capacity of the firm and due to expansion, more hands will be needed. Similarly, poverty can as well cause unemployment. This implies that increase in poverty will also lead to increase in unemployment, which practically becomes impossible for poor people to create jobs, and thereby unemployment rate continues to rise.

Finally, the findings do not support a blanket statement that all SME financing reduces poverty. Rather, aid and grants display a statistically significant inverse association with poverty, bank credit is significant only in the short run and carries a positive sign, and the SME credit scheme has a positive long-run association with poverty. These differences reinforce the importance of distinguishing financing instruments when designing poverty-reduction policy.

5.0 Conclusion and Recommendations

The study examined the relationship between SME financing and poverty in Nigeria over 1992-2021 using an ARDL framework. The bounds test indicates a long-run relationship among the variables, and the error-correction coefficient shows relatively rapid adjustment toward long-run equilibrium. The individual financing indicators, however, do not have uniform effects. AGS is negatively and significantly associated with poverty in both the short and long run. BC is positive and significant in the short run but positive and insignificant in the long run. SCS is positive and insignificant in the short run but positive and significant in the long run. PCI is negative but statistically insignificant, while UMP is positive and statistically significant in both horizons. The conclusion is therefore that SME financing has differentiated rather than uniformly poverty-reducing associations with poverty in Nigeria.

Recommendations

i. The Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), Bank of Industry (BOI), Bank of Agriculture (BOA) and other relevant government institutions that have responsibility for the development of the SMEs should maintain and intensify well targeted aid and grant programmes for SMEs. This is a recommendation based upon the fact that there is a statistically significant negative relationship between poverty and aid and grant support (AGS), both in the short term and the long term. The agencies need to target effectively, ensure the selection of the beneficiaries is transparent and the disbursement of grants is timely to increase their poverty reduction impacts.

ii. Central Bank of Nigeria (CBN), Bank of Industry (BOI), Development Bank of Nigeria (DBN) and SMEDAN should strengthen policies to enhance SMEs access to bank credit with appropriate structures which are also affordable. Consideration should be paid to the conditions of the loans, reasonable terms, loan products should be suitable to the operational situation of SMEs. This recommendation is based on the statistically significant short-run relationship between bank credit (BC) and poverty, but acknowledges that the coefficient of this relationship is not statistically significant in the long-run. The institutions concerned should thus encourage productive credit use to improve income generation potential and sustainability of SMEs.

iii. Targeting, monitoring and evaluation of SME credit schemes should be enhanced by the Central Bank of Nigeria (CBN), Bank of Industry (BOI). This is based on the estimated model which showed that SME credit schemes (SCS) was positively associated with poverty in the long-run and the association was statistically significant. Government and implementing institutions must therefore periodically evaluate the impacts of credit schemes to ensure that they are achieving better enterprise performance, income generation and employment. A credit scheme is not enough to be seen as a poverty reduction measure on its own.

iv. Government institutions such as SMEDAN, BOI and other institutions involved in the development of SMEs should provide complementary non-financial support services to complement SME-financing programmes. These should encompass business development services, financial education, entrepreneurship training, market access support, and effective monitoring and guidance on the use of the funds as well as mentoring. While not specifically measured as explanatory variables in this study, the implementation of these measures is suggested as complementary policy actions that would help SMEs use financial resources effectively and increase the sustainability of financing programmes.

v. Federal ministry of labour and employment, SMEDAN, BOI, DBN and respective state level agencies on labour market and SME development should strengthen employment oriented policies for SMEs. The finding that unemployment has a positive association with poverty, both in the short run and the long run, supports this recommendation. The capacity of SMEs to keep their existing employees and to generate more productive jobs should thus be strengthened through government intervention. These can be implemented in addition to interventions that support SME financing, to enhance income generating potential and to play a role in poverty alleviation.

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