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EFFECT OF ACCESS TO CREDIT ON FINANCIAL PERFORMANCE OF SMALL AND MEDIUM SCALE ENTERPRISES IN NIGERIA

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Abstract

In Nigeria, where Small and Medium Enterprise (SMEs) contributes substantially to employment generation and economic development, access to credit facilities is a key factor that determines the growth and sustainability of SMEs. Despite financial interventions the contribution of credit access to the financial performance of SMEs is not a clear issue. This study examined the effect of access to credit measured by Credit to SMEs (CSME), Lending Rate (LR) and Availability of Collateral Security (ACS) on Return on Assets (ROA) of SMEs in Nigeria. The study was quantitative, secondary data and regression analysis was used for the study to analyze the relationship between the variables. The results indicated that lending rate had a significant impact on ROA (t = -4.348303; p = 0.0002) which means that a lowering of the lending rate significantly affects the financial performance of the SMEs. Similarly, credit for SMEs had a significant positive effect on ROA (t = 2.705715; p = 0.0121), implying that improved access to credit helped increase asset utilization and profitability. The finding of the study indicated that the availability of credit facilities positively affects the financial performance of SMEs operating in Nigeria with increased credit facilities and better terms of credit facilities. Thus, financial institutions and policy makers were recommended to make credit more available to SMEs at reasonable interest rates as well as to look into other financing avenues to minimize the need for excessive collateral requirements.

Keywords: credit to small and medium enterprises, collateral security, financial performance, lending rate, return on assets

1. Introduction

Financial performance is an important measure of sustainability and competitiveness of Small and Medium Enterprises (SMEs), especially in developing countries, where SMEs are expected to create jobs, generate innovations, combat poverty, and drive economic diversification. Return on Assets (ROA) is one of the metrics that have garnered a lot of attention because it measures the effectiveness of a firm's asset utilization to produce earnings. SMEs make up a significant percentage of Nigerian businesses and are responsible for a large percentage of the nation's gross domestic product and employment. However, there are a lot of SMEs that remain unprofitable and inefficient due to their weak access to external financing, even though they are crucial to the economic development of their country.

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Access to credit facilities improve the resource base of companies to obtain productive assets, to expand business, to increase their liquidity and to take advantage of investment opportunities, with implications for profitability and long-term survival. Empirical research in recent years has has highlighted the role of financing in improving the outcomes of SMEs. In Nigeria, for instance, Aminu et al. (2021) contended that access to finance had a positive effect on SME performance.

Likewise, Olowofela et al. (2022) found that financial inclusion has a positive impact on SME growth, and Anyanwu and Aguwamba (2024) showed that bank financing has a positive effect on the profitability performance of SMEs in Nigeria. The results highlight the importance of the availability of credit to support enterprise growth and financial viability. However, despite the literature, there are certain gaps that need to be filled in to fully understand the effect of different dimensions of access to credit facilities on the financial performance of SMEs in Nigeria.

Previous research mainly has been conducted on general indicators of access to finance, financial inclusion or aggregate bank financing without breaking down the impact of credit of SMEs, interest rates, and collateral security requirements on firms' profitability. For example, Aminu et al. (2021) studied the relationship between access to finance and SME performance based on survey data without exploring the impact of lending conditions like the interest rate and collateral requirements.

Similarly, Olowofela et al. (2022) focused on financial inclusion and the growth of SMEs without specifically considering the effect of the characteristics of bank loans on firms' financial performance. Recently, Anyanwu and Aguwamba (2024) considered the financing of the deposit money banks and the profit performance of SMEs, neglecting the relevance of collateral security as a determinant factor of access to credit by SMEs. Based on this, the existing empirical evidence on the impact of conditions of bank credit facilities on the capacity of SMEs to convert the loan amount into better asset returns is still uncertain. This is especially important in Nigeria, where the high cost of borrowing and stringent collateral requirements are still limiting the access of SMEs to formal finance sources.

Additionally, the previous research has used different proxies of financial performance such as sales growth, profit margins, enterprise growth, and general profitability measures which leads to varying results and comparability. Very few studies have specifically addressed how the financial performance measure, Return on Assets, relate to access to credit facilities of Nigerian SMEs over a long period of time amidst several economic reform, financial sector intervention and monetary policy adjustments.

As ROA offers a window into how effectively management uses the resources at its disposal for profit, knowledge of the relationship between the availability of credit and the ROA is critical for policymaking and business decision making. If these issues are not addressed, the impact of government policies and financial sector policies that aim to enhance SME financing and ensure enterprise sustainability will be constrained.

In this background, the present study aims at bridging this gap by examining the effect of access to credit facilities on the financial performance of the SMEs in Nigeria. Specifically, the study aims to investigate the effects of Credit to SMEs (CSME), Lending Rate (LR) and Availability of Collateral Security (ACS) on Return on Assets (ROA) for the period 1993-2023. The period chosen is reflective of the changing landscape of SME financing in Nigeria with different interventions in the policy arena to increase credit access to the SME sector. The access to credit and its dimensions were broken down in this study, hence giving a more detailed picture of the credit-financing-performance relationship among SMEs in Nigeria.

The general aim of the study seeks to examine the effect of access to credit on the financial performance of Nigeria's SMEs. The results of this research will help enrich the body of knowledge concerning SME finance because it will provide empirical evidence on the importance of the various dimensions of credit access to their financial performance. The study also provides practical policy implications for the formulation of financing structure for enterprise profitability and sustainable economic development in Nigeria for the policy makers, financial institutions and operators of SMEs. The Hypotheses of the study are therefore stated as follow:

H_{01}: Lending rate does not have any significant effect on return on assets of SMEs in Nigeria.

H_{02}: Credit to SMEs (CSME) does not have any significant effect on return on assets of SMEs in Nigeria.

H_{03}: Availability of Collateral Security (ACS) does not have any significant effect on return on assets of SMEs in Nigeria.

2. Literature Review

Conceptual Review

Access to Credit

Credit facility is a multidimensional financial concept which is manifested by the possibility of small and medium-sized enterprises (SMEs) to secure external finance from formal financial institutions for the prevailing lending environment and conditions. The availability of credit is defined by three different aspects in this study: access to credit for SMEs, lending rate and the existence of collateral security, which capture different constraints or enablers in SME financing.

In practice, credit availability is one of the most important factors influencing enterprise size, liquidity and profitability, especially in developing nations where internally generated funds are not adequate to finance expansion and efficiency of operation. Accessibility of credit has been found to positively impact firm performance through the capital deepening and investment expansion effect in recent studies (Afolabi & Adekunle, 2023; Mensah et al., 2022).

Lending Rate

The lending rate which is the cost of acquiring funds through financial institutions has always been established as a decisive factor of SME performance. Recent research holds that high lending rates in Nigeria have a severe impact on the ability of SMEs to access finance and profitability by making it expensive to do business in the country (Olowe and Olufemi, 2023; Adegbite et al., 2024).

Conversely, other researchers assume that moderate lending rates do not always affect performance in the case of firms using borrowed funds in an efficient manner (Yakubu & Affoi, 2022). Although both schools of thought recognize the significance of lending rates, they do not agree in their assumptions concerning the financial management ability of SMEs. One of the strengths of the literature is the identification of macroeconomic factors (inflation and monetary policy) on lending rates.

Nonetheless, it has a significant limitation in that most of the research is conducted at the aggregate level, which does not capture the firm-specific behavior to borrowing costs. Moreover, little consideration is paid to the impact that lending rate volatility, as opposed to simply level, has on asset utilization. This paper fills this gap with a specific connection of lending rates to ROA, and thus, the efficiency of asset utilization and not the overall profitability.

Credit to SMEs

Credit to SMEs is the amount and availability of credit facilities to small businesses. There is a widespread agreement that higher levels of credit availability boost the growth, investment, and performance of SMEs (Delphin & Awolusi, 2023; Nwankwo et al., 2024). Nonetheless, there is also conflicting evidence that does not support the idea that the existence of credit will lead to better performance, especially when the money is not distributed efficiently or used on unproductive activities (Osei-Assibey, 2022). This deviation points at a conceptual fault line between access and effective use of credit.

The extent of the available literature is that it is empirically verified that the finance-growth nexus exists, and that this is frequently backed up by financial intermediation theory. However, one of the key constraints is the propensity to quantify credit in aggregate terms (e.g., the aggregate amount bank lending to SMEs), but this hides heterogeneity at the firm-level. Also, not many studies explicitly relate access to credit to performance measures on efficiency, such as ROA. The given study helps to shed more light on the transformation of financial resources into operational efficiency by paying attention to credit to SMEs in terms of returns to assets.

Availability of Collateral Security

Collateral security is the assets which borrowers are guaranteeing to borrow in order to reduce the lender risk. The literature has always found collateral requirements a significant impediment to SME financing in developing economies (Okafor and Eze, 2023; World Bank, 2022). Some researchers believe that collateral strengthens credit discipline and decreases the default risk (Brei et al., 2023), but others believe that the high collateral requirement harms economic growth and innovation by excluding SMEs without tangible assets (Beck & Demirguc-Kunt, 2022).

This opposition is a kind of conflict between risk management and financial inclusion. One of the strengths of the literature is that it is heavily theoretically based on information asymmetry and agency theory. Nevertheless, a significant amount of research considers collateral as a binary variable (present or absent), and does not consider the differences in asset quality, valuation and liquidity. In addition, there is little empirical research on the impact of collateral restrictions on post-loan performance, especially asset efficiency. This paper fills this gap by considering collateral availability not only as a factor determining access to credit, but also as a factor determining ROA.

Return on Assets (ROA)

Return On Assets is a popular financial performance indicator that is used to evaluate the efficiency of a firm in terms of using its assets to generate profit. There is general consensus among scholars that ROA is a more holistic measure of managerial efficiency than other profitability measures like return on equity (ROE) (Ibrahim & Alagidede, 2023).

Nonetheless, other researchers warn that ROA can be subject to accounting policies, as well as valuation of its assets, which can misrepresent cross-firm comparisons

(Mensah & Abor, 2024). Although the literature has employed ROA widely in the banking and corporate finance research, its utilization in the SME research is relatively low and especially in Nigeria. One of its strengths is that it can connect operational performance with the utilization of resources and, therefore, it is appropriate to evaluate the effect of financial limitation. However, there is a weakness associated with the lack of longitudinal SME data, which influences the strength of ROA-based analyses.

The research utilizes ROA as a dependent variable to understand the impact of the elements of credit facilities not only in profitability, but also in efficiency in asset utilization. On the whole, the literature reviewed shows that, although each of the variables is examined separately, there is a lack of integrative analysis that considers lending rate, credit to SMEs, and collateral security as one in the context of ROA. The literature has also been skewed in its research, either on the access to finance or overall performance, leaving a knowledge gap on the joint and disaggregated impact of credit facility elements on asset efficiency.

Also, variations in the results, especially when it comes to the effects of lending rates and credit usage, indicate that further context-based, firm-specific studies are necessary. This paper addresses these gaps by integrating the variables into a single model, which will add to a more complex picture of the impact of credit conditions on SME performance in Nigeria.

Theoretical Framework

This theoretical framework has been based on the Pecking Order Theory (Donaldson, 1961; Myers and Majluf, 1984) to support the relationship between the variables of credit facilities, lending rate, credit to SMEs, and collateral security with the Return on Assets (ROA) of SMEs. According to the Pecking Order Theory, internal financing, followed by debt and lastly external equity are only sought by firms when there is information asymmetry and transaction costs, a situation that is especially applicable to SMEs in developing economies where capital markets are not easily accessible.

Here, high lending rates deter outside borrowing, credit availability affects the level of investment in productive assets whereas collateral requirements are a reaction to information asymmetry and therefore, affects access to finance which ultimately impacts ROA. Though the theory presupposes the strict hierarchy of financing, the empirical evidence indicates that SMEs can have flexibility in financing patterns based on economic circumstances.

Complementarily, the Agency Theory describes the reason behind the information asymmetry between lenders and borrowers, which results in monitoring expenses and punitive lending terms like high interest rates and collateral requirements in order to minimize risk, which may limit the financing and performance of SME. Although it is not as relevant to SMEs because they are owner-managed, it reinforces the conceptualizations of lender-borrower relationship. Together, the two theories offer a consistent theory of how the cost of credit, access and security needs influence the behaviour and performance of SMEs to finance them, creating a robust conceptual base on which to examine their effects on ROA.

Empirical Review

In recent years, the empirical literature on the correlation between credit facilities and SME performance has grown considerably, especially in developing economies like Nigeria. There is a leading body of research that highlights that bank credit and lending rates are essential parameters in influencing the outcomes of SMEs. An example is Kolawole (2025) who has applied the ARDL and FMOLS models to Nigerian time-series data and observed that the bank credit has a positive and significant impact on the performance of SMEs, but the lending rates have a negative impact on the growth.

On the same note, Ibrahim (2025) in his qualitative synthesis of empirical research came to the conclusion that high interest rates are detrimental to the sustainability of SMEs by raising the cost of borrowing and reducing the possibility of investing. These results all come to a head on the adverse implications of high lending rates but differs in methodological rigor—whereas Kolawole (2025) uses econometric modeling that permits causal inference, Ibrahim (2025) uses a narrative approach, which restricts empirical generalisation. This methodological juxtaposition underscores a literature gap, especially the lack of firm-level studies that measure the impact of lending rates on efficiency measures like Return on Assets (ROA), as opposed to more general growth measures.

In addition to the lending rates, empirical research on credit access and credit amount to SMEs have always indicated positive relationship with the growth of enterprises and the macroeconomic performance. Indicatively, Igbinosa and Igbinosa (2025) have developed a long-run equilibrium relationship between SME credit access and economic growth in Nigeria, through dynamic econometric methods. Equally, Mujidat and Sopelola (2024) have discovered that the bank credit variables are significant in promoting SME growth in both the short and long term. On a micro level, Akintayo et al. (2024) applied both regression and survey methods to prove that institutional funding and credit programs have a big positive impact on the access to finance by SMEs.

Nonetheless, the opposite is indicated by the findings of Osei-Assibey (2022), who believes that access to credit cannot ensure better performance, especially in situations where funds are poorly used. Although these studies all confirm the significance of credit, they vary on their focus- some on access, others on use- creating a conceptual gap in the understanding of credit availability and credit effectiveness. In addition, these studies have focused more on growth indicators and little focus on profitability and efficiency measures like ROA.

The empirical evidence on collateral security sheds more light on the discussion of SME financing constraints. Okafor and Eze (2023) identified that in Nigeria, stringent collateral conditions greatly limit the access of SMEs to formal credit, especially by firms that have no tangible assets. In the same vein, Brei et al. (2023) state that collateral is a risk-reduction tool used by lenders, particularly in the information asymmetry environment. It improves the stability of financial systems, but it also places barriers of exclusion on SMEs, thus limiting their performance potential.

These researches concur on the duality of collateral; as an enforcer of credit discipline, and as a constraint to access; yet they differ in assessing the overall impact of collateral. One of the most important weaknesses of the literature is that collateral is frequently viewed as a binary variable (present or absent) instead of its quality, valuation, or influence on the post-loan performance. As a result, the correlation between collateral security and firm-level efficiency measures like ROA is not thoroughly studied.

In the context of SME performance measurement, the available empirical research is mainly based on the macroeconomic variables like the contribution to GDP, job creation, and growth of the firm. To illustrate, Mohammed et al. (2025) investigated the connection between SME financing and growth and concluded that availability of finance is a crucial factor in enterprise growth.

On the same note, Ajibola and Abdulwaheed (2024) found that development bank credit has a positive impact on SME growth and helps to reduce poverty in Nigeria. Although these researches are useful in terms of macro-level analysis, they mostly ignore firm-level financial performance measures like ROA, which reflects the level of asset efficiency. According to Mensah and Abor (2024), ROA is a more efficient measure of managerial efficiency, versus other profitability indicators, but the use of ROA in SME finance research has been underutilized.

Synthetically, the empirical literature is found to contain a number of gaps. To begin with, the majority of the studies take aggregate or macro-level approaches, with fewer firm-level studies relating variables of credit facilities with profitability measures like ROA (Igbinosa et al., 2025; Mohammed et al., 2025). Second, the use of credit access is one-dimensional, without breaking down it into lending rate, credit volume, and collateral requirements (Mujidat & Sopelola, 2024; Akintayo et al., 2024).

Third, there are still empirical contradictions related to the impact of lending rates, in part because of the methodological and data structural differences (Kolawole, 2025; Ibrahim, 2025). Fourth, the connection between these elements of credit and asset efficiency (ROA) is not explored adequately in the potential of the Nigerian SME. Thus, the paper will fill the gap between the research on the access to finance and the analysis of performance and efficiency by offering a disaggregated, firm-level empirical research on the impact of lending rate, credit to SMEs, and collateral security on ROA.

3. Methodology

This study employed non-experimental (ex post facto) research design in the study of the effect of access to credit facilities on the financial performance of Small and Medium Enterprises (SMEs) in Nigeria. The design was deemed appropriate, as the variables of interest, such as credit to SMEs, lending rate, availability of collateral security and return on assets have already happened and are not within the control of the researcher.

The population of the study included all registered Small and Medium Enterprises (SMEs) in Nigeria as at 30 December 2025 (SMEDAN, 2025) which was 39.65 million SMEs. With its size and scope, the study used a census sampling which involved the entire population as the sampling frame. Accordingly, the study's sample size is 39.65 million SMEs, which means that the sampling error is eliminated and the population is fully covered. The census approach was rationalised on the basis of the availability of secondary data sources, and the requirement for SMEs to be fully represented throughout Nigeria's sectors and regions.

The study period was from 1995 to 2025, chosen to reflect important structural and policy shifts in Nigeria's financial system that led to banking sector reforms, financial liberalization and targeted financing interventions for SMEs. The secondary data sources were Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), World Bank Enterprise Surveys and audited financial statements of SMEs (if available).

A panel least squares regression model based on multiple linear regression was fitted for achieving the following study aims. The dependent variable in the given model is Return on Assets (ROA) and the independent variables are Credit to SMEs (CS), Lending

Rate (LR), and Availability of Collateral Security (ACS). The econometric specification aimed to include both cross-sectional and time-series variation over the study period among the SMEs.

In order to make the estimates robust and reliable, the study used diagnostic and corrective methods such as checking the presence of multicollinearity, heteroskedasticity and serial correlation. When it became necessary to correct for heteroskedasticity and autocorrelation, it was corrected by using robust standard errors (White/clustered corrections) to achieve more efficient and valid regression results. These procedures allowed for unbiased estimation of the coefficients and interpretation of the results for policy purposes in terms of the access to credit and financial performance of SMEs in Nigeria.

Model Specification

The econometric model employed in this study to examine the effect of Credit Facility proxied by Lending rate, Credit to SMEs and Availability of Collateral Security on Financial Performance proxied by Return on Assets of SMEs in Nigeria, was adapted with modification from the previous empirical study of Ubesie et al. (2017) as follows:

ROA=f(CF) ……………………………………………………….…………..(Equation 1)

This can be specified in operational form as:

$ROA_t = \beta 0 + \beta_1 CS_t + \beta_2 LR_t + \beta_3 ACS_t + \mu_t$ ....(Equation 1)

Where: CF = Credit Facility; ROA = Return on Assets; β0 = Constant Coefficient; β1 - β 2 = Slope or regression parameters; CS = Credit to SMEs; LR = Lending Rate; ACS = Availability of Collateral Security; μ = Stochastic error term; t = Time series.

Table 1
Measurement of Variables as expected sign and A Priori Expectation

Variables	Type of Variable	Variable Labels	Measurement/Justification	Supporting scholar	Expected sign
Financial Performance	Dependent	Return on assets (ROA)	Net Income / Total assets	Jibril *et al.* (2023)	+
Access to Credit Facility	Independent Variables	Lending Rate (LR)	The lending rate is the percentage of the principal that rewards the bank for the time and risk taken on the money lent to a borrower on a short-term basis.	Olokoyo (2011)	+
	Independent Variables	Credit to SMEs (CSME)	This is money lent by a bank to SMEs and will be returned in the future. It is calculated by subtracting the prior year loan from the current loan and dividing by the previous year loan.	Eke and Jegbefume (2025)	+
	Independent Variables	Availability of Collateral Security (ACS)	Addition of Insurance Fee Registration Fee and Property Value.	Nyabicha (2015)	+

Source: Author's Computation

4. Results and Discussion

Descriptive Statistics

Table 2 illustrates the descriptive statistics, which are important in terms of the distribution and range of the Return on Assets (ROA), Lending Rate (LR), Credit to SMEs (CSME) and Availability of Collateral Security (ACS) across the 31 periods.

Table 2

Descriptive Statistics

Statistics	ROA	LR	CSME	ACS
Mean	7.54	18.05	4.49	4.45
Median	7.32	16.94	4.51	4.55
Maximum	12.02	24.77	4.98	5.12
Minimum	4.61	11.35	4.03	2.99
Std. Dev	1.81	3.25	0.29	0.43
Skewness	0.72	-0.11	0.21	-1.13
Kurtosis	3.26	2.51	1.75	5.47
Jarque-Bera	2.77	0.38	2.23	14.52
Probability	0.25	0.83	0.33	0.00
Sum	233.60	559.67	139.08	137.80
Sum Sq. Dev.	98.76	317.14	2.53	5.52
Observations	31	31	31	31

Source: Analyzed Data (2026)

The average and median values of ROA are 7.54 and 7.32 respectively, which reflects moderately high levels of profitability in the SMEs with the central tendency being relatively stable, with the standard deviation of 1.81 implying rather average variability during the period. Lending Rate has a higher mean (18.05) and median (16.94) that suggests the high borrowing costs in Nigeria, and the standard deviation (3.25) indicates significant changes in monetary conditions. The mean credit to SMEs is 4.49 with a median of 4.51 with a very low standard deviation of 0.29 indicating rather stable, but limited, credit availability over a period. Equally, Collateral Security has a mean of 4.45 and median of 4.55 with standard deviation of 0.43 which shows moderate variation which is most likely due to the shifts in the lending policies and risk assessment practice.

Distributional characteristics reveal that ROA is relatively skewed to the right (0.72), meaning that there are a few SMEs that obtained relatively higher returns. The Lending Rate has almost equal skewness (-0.11), whereas Credit to SMEs has very weak positive skewness (0.21) indicating very slight clustering around its mean. Conversely, Collateral Security is heavily skewed (-1.13) with most values being less skewed, and fewer higher values.

The results of the Kurtosis analysis demonstrate that ROA (3.26) is a normal value, LR (2.51) and CSME (1.75) are platykurtic, meaning that they have flatter distributions, and ACS (5.47) is leptokurtic, meaning that it is more peaked with heavier tails. Jarque-Bera statistics confirm normality for ROA ($p = 0.25$), LR ($p = 0.83$), and CSME ($p = 0.33$), while ACS ($p = 0.00$) is not normally distributed. In general, the findings indicate that whereas profitability and credit variables are more stable, collateral requirements are more volatile and non-normative, which supports the idea of structural rigidity in the SME financing conditions in Nigeria.

Correlation Analysis

Table 3 shows the Pearson correlation coefficients between Return on Assets (ROA), Lending Rate (LR), Credit to SMEs (CSME) and Availability of Collateral Security (ACS). These results give preliminary information on the direction and magnitude of association between the variables included in the study, which is necessary for understanding possible association between variables prior to performing regression analysis and for the evaluation of multicollinearity among the explanatory variables.

Table 3

Correlation Analysis Results

	ROA	LR	CSME	ACS
ROA	1.0000			
LR	-0.7812	1.000		
CSME	0.1864	0.1109	1.0000	
ACS	0.0334	0.1485	0.3664	1.0000

Source: Analyzed Data (2026)

From the correlation results, it can be seen that there is a strong negative correlation between Lending Rate and ROA (r = –0.7812). This implies that there is a strong relationship between interest costs and profitability of the SMEs in Nigeria. Alternatively, the higher the rate of interest charged, the less efficiently an SME will be able to use the asset and to return a profit. The significant role of cost of borrowing as one of the key constraints on the financial performance of SMEs was highlighted in this finding. However, Credit to SMEs has a weak positive correlation with ROA (r = 0.1864). This suggests that the access to credit has a weak positive relationship with financial performance, but it does not increase it significantly. The low magnitude implies that credit availability contributes to liquidity and improve investment capacity but might not necessarily lead to higher profits for SMEs if they do not use the borrowed funds efficiently.

Likewise, Availability of Collateral Security shows a very weak positive correlation with ROA (r = 0.0334) which means, there is a very small degree of direct association between collateral security and profitability of SMEs. This indicates that, while the need for collateral might not directly improve or impede profitability results, it might rather affect the type of credit that is accessible.

Based on the further analyses, CSME is positively correlated with Lending Rate, but the correlation is not strong (r = 0.1109), indicating that there is not a strong response of credit supply to credit lending rates for the data used in this analysis. Similarly, Lending Rate is weakly positively correlated with ACS (r = 0.1485), revealing little interaction between the two variables - collateral requirements and borrowing costs. There is, however, a moderate positive correlation between ACS and CSME (r = 0.3664), which suggests that collateral availability is more closely related with the access to credit than the profitability outcomes of the SMEs.

In general, the correlation matrix shows that multicollinearity is not a major issue, as all the correlations coefficients are less than the standard limit of 0.80. Importantly, the findings indicate that lending rate has the greatest direct impact on SME profitability (ROA) whereas the direct impacts of credit availability and collateral security are comparatively smaller. This gives an early indication of the fact that the cost of credit is a more determining factor on financial performance of SMEs than credit volume and collateral condition, in the Nigerian setting.

Unit Root Test

The results of the Augmented Dickey-Fuller (ADF) Fisher unit root test in Table 4 test the stationarity of the variables. At levels, ROA (ADF = -2.96, p = 0.28), LR (ADF = -2.96, p = 0.63), and CSME (ADF = -2.96, p = 0.10) are all non-stationary, indicating the presence of unit roots. In contrast, ACS is stationary at level (ADF = -3.00, p = 0.04), as its p-value is below 0.05.

Nonetheless, once the data have been first differenced, all variables are stationary with extremely large p-values (0.00) and they are all integrated of order one, I(1), except ACS which is weakly I (0) but also smooths after differencing. On the whole, the results indicate a mixed order of integration of the variables although perfect stationarity is obtained at first difference. This is a reason to employ panel econometric methods and minimises the risk of spurious regression in the analysis that follows.

Table 4

Augmented Dickey-Fuller (ADF) Fisher Unit Root Test Result

	@ Level		1st Difference	
Variable	**Statistics**	**P-value**	**Statistic**	**P-value**
ROA	-2.96	0.28	-2.97	0.00
LR	-2.96	0.63	-2.97	0.00
CSME	-2.96	0.10	-2.97	0.00
ACS	-3.00	0.04	-2.97	0.00

Source: Analyzed Data (2026)

Heteroskedasticity Test

The Breusch–Pagan heteroskedasticity test results in Table 5 indicate that the regression model is free from heteroskedasticity, as all variables recorded p-values above the 5% significance level. Specifically, ROA (p = 0.3442), LR (p = 0.7428), CSME (p = 0.9591), and ACS (p = 0.9502) all show no evidence of heteroskedasticity, implying that the error variances are constant and not systematically influenced by changes in the explanatory variables.

This confirms that lending rate, credit to SMEs, and collateral security do not induce instability in the model's error structure. Overall, the results validate the assumption of homoskedasticity in the regression model, thereby confirming the reliability, efficiency, and robustness of the estimated coefficients for valid statistical inference and policy interpretation.

Table 5

Breusch-Pagan Heteroskedasticity Test Result

Variables	**P-value**
ROA	0.3442
LR	0.7428
CSME	0.9591
ACS	0.9502

Source: Analyzed Data (2026)

Regression Result

Regression findings in Table 6 indicate that the credit facility variables (Lending Rate, Credit to SMEs and Availability of Collateral Security) affect financial performance measured by Return on Assets (ROA) of SMEs in Nigeria significantly, but in a mixed manner. The impact of lending rate on ROA is negative and highly significant (t = -7.413078; p = 0.0000), meaning that an increase in the cost of lending has a significant negative impact on SME profitability and efficiency in utilizing assets, which is expected based on the cost-of-capital constraint.

Credits to SMEs on the other hand exhibit a positive and significant correlation with ROA (t = 2.430043; p = 0.0220), which implies that with higher access to credit, firms can better utilize their assets and become more profitable. Nonetheless, there is a negative and statistically insignificant impact of availability of collateral security on ROA (t = -0.141391; p = 0.8886), which implies that the collateral requirements do not directly affect the performance of SMEs in the model.

The model captures approximately 65.1 percent of the variation in ROA (Adjusted R 2 = 0.651023) which means that the model has a very high explanatory power. The F-statistic (19.65516; p = 0.000001) indicates that the model is significant together. In general, the results suggest that lending cost and credit supply are important factors that determine SME performance, and collateral security has a minor impact on profitability in the Nigerian SME sector.

Table 6

Regression Result of Effect of Credit Facility on Return on Asset

Variables	t-Statistics	Prob
LR	-7.413078	
CSME	2.430043	0.0000
ACS	-0.141391	0.0220
Adjusted R-Squared	0.651023	0.8886
F-statistics	19.65516	
Prob(F-statistic)	0.000001	

Source: Analyzed Data (2026)

Discussion of Findings

The empirical results show that there is a statistically significant association between credit facility components and SME financial performance (ROA) in Nigeria, which adds to the current body of research in the field of finance and development economics. This large adverse impact of lending rate on ROA is consistent with Kolawole (2025) Ibrahim (2025), and Olowe and Olufemi (2023), who also find that expensive borrowing decreases the performance of SMEs by raising the cost of capital and restricting their capacity to invest. This is however against Yakubu and Affoi (2022), who hold that efficient use of funds can counteract the impact of interest rates, which however is not substantiated by the current evidence.

Conversely, the positive and significant impact of credit on SMEs supports Delphin & Awolusi (2023). (2023) and Nwakofia et al. (2024), who discover that the access to credit improves performance by increasing liquidity and opportunities to invest, but contrasts with Osei-Assibey (2022), who also believes that credit access is not essential without effective use.

Moreover, the negligible impact of collateral security on ROA does not align with Okafor and Eze (2023) and Brei et al. (2023), which highlight the importance of collateral in credit access and risk reduction, and indicate that collateral has no direct effect on profitability after obtaining financing. It also elaborates Beck and Demirguc-Kunt (2022) by demonstrating that it is poorly connected to the firm-level performance. In general, having an R 2 of 65.1, the findings affirm that the lending cost and credit volume are more effective determinants of SME performance than collateral constraints thus narrowing down the finance-growth nexus to efficiency-based results.

5. Conclusion and Recommendations

The paper concludes that the variables of credit facilities such as lending rate, credit to SMEs, and collateral security have a significant impact on SME financial performance in Nigeria. The negative impact on ROA by lending rate is strong, indicating that the increased cost of borrowing decreases profitability and efficiency of assets.

The positive and significant impact of credit to SMEs is that better access to credit enhances asset utilization and performance. There is however no significant direct impact of collateral security on ROA, which implies that it eases access to credit but does not enhance profitability on accessing finance. All in all, results indicate that cost and credit availability is a stronger determinant of SME performance compared to collateral requirements and as such, policies should be implemented to lower lending rates and increase credit access to improve the efficiency and sustainability of SMEs.

The study suggests that the monetary authorities (especially the Central Bank of Nigeria) should focus on policies to lower the lending rates to more SME-friendly levels because the high cost of borrowing was found to be very detrimental to Return on Assets and the overall performance of the enterprise.

Further, financial institutions are to broaden and intensify special credit facilities to SMEs not only to enhance credit accessibility but also to enhance accessibility by simplifying the loan processes and easing of bureaucratic restrictions since credit accessibility to SMEs has a positive influence on profitability.

Moreover, the policymakers and development finance institutions are encouraged to focus less on excessive collateral standards and more on more inclusive lending systems, like credit guarantee schemes and character-based lending models, as the availability of collateral in this study did not have a significant direct impact on the performance of SMEs.

On their part, SME operators ought to improve the financial management practices so that they can be able to realize efficient use of borrowed funds hence, maximizing returns on assets. All these would aid in the formation of a more enabling credit environment, which facilitates sustainable SME growth and productivity in Nigeria.

Contribution to Knowledge

This research helps in knowledge advancement by offering a more disaggregated and firm-specific empirical evaluation of the influence of certain credit facility elements lending rate, credit to SMEs, and access of collateral security upon Return on Assets (ROA) of Small and Medium Scale Enterprise (SMEs) in Nigeria otherwise extends current knowledge which has mainly concentrated on aggregate growth determinants as opposed to efficiency-based performance indices.

As opposed to the previous studies where the access to finance is assumed to be one construct, the present work differentiates between the cost of credit, volume of credit, and collateral constraints which provides a more refined perspective of how each of the aspects individually and in combination with each other affects the SME financial performance. The research also contributes to the body of empirical research by changing the focus of analysis to asset utilization efficiency as opposed to general SME growth outcomes, which enhances the relevance of financial intermediation and pecking order theory in the explanation of SME behaviour in developing economies.

Suggestion for Further Studies

Further research needs to be conducted to further this study by introducing more macroeconomic and firm-specific factors like inflation rate, exchange rate volatility, size of firm, and efficiency of management and financial literacy to have a more comprehensive explanation of SME performance beyond the components of credit facilities.

Further studies may also utilize the disaggregation of SMEs by sector in order to find out whether the impacts of lending rate, access to credit, and credit collateral security are different in manufacturing based, trade based, and service-based enterprises. It will also be advantageous to future research to consider other methodological procedures like dynamic panel models (System GMM) or nonlinear models to identify any endogeneity and threshold effects in the relationship between credit and performance.

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