

IMPLICATIONS OF BANK CREDITS IN DEEPENING SMALL AND MEDIUM SCALE ENTERPRISES (SMES) PERFORMANCE IN NIGERIA

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ABSTRACT

This research assesses the implications of bank credits in deepening small and medium scale enterprises (SMEs) performance in Nigeria, spanning the period from 1990 to 2022. The indicators used for bank credits are private sector credit, agricultural sector credit, manufacturing sector credit, credit to SMEs, and the lending rate while SMEs output is used as proxy for small and medium scale enterprise (SMEs) performance. The study was anchored on Pecking Order Theory. Annual time data series for the study were gathered from the Central Bank of Nigeria (CBN) Statistical Bulletin and reports from the National Bureau of Statistics (NBS), and were analyzed using Augmented-Dickey Fuller (ADF) unit root test, the Bound cointegration test statistic, and the Autoregressive Distributive Lag (ARDL) approach. The research established that providing market friendly credit to the private sector and the agricultural sector positively but insignificantly influenced SMEs' output in Nigeria. Conversely, credit to the manufacturing sector and the SMEs positively and significantly impacted on SMEs output while lending rate had negative and significant impact on the regressand. The study concluded that bank credits play significant positive role in deepening small and medium scale enterprises (SMEs) performance in Nigeria over the sampled period. It is recommended among others that deposit money banks should favourably extend more market friendly credits to small and medium scale enterprises (SMEs) to enhance their performance in the economy.

Keywords: Bank Credits, SMEs Output, Credit to Private Sector, Credit to Agricultural Sector, Credit to Manufacturing Sector, Credit to SMEs, Lending Rate.

Introduction

Small and Medium Scale Enterprises (SMEs) play a crucial role in stimulating economic development and generating employment opportunities, which is significant not only in industrialised nations but also in developing and emerging economies. Small and medium firms have been worldwide acknowledged, including in Nigeria, for their significant contributions to economic growth and development (Cabbar, 2018). Currently, governments worldwide are

focusing their efforts on SMEs. This is due to the fact that endeavours to foster economic advancement via the establishment of extensive enterprises have often proven ineffective in enhancing the well-being of the majority of the affected individuals. Consequently, small and medium size firms are now seen as crucial for achieving fair and balanced economic growth (Memba, Gakure & Karanja, 2020). Due to the significant contribution of small and medium size firms to Nigeria's economy, successive governments since the country gained independence in the 1960s have prioritised the development of this sector via different programmes and substantial financial investments. This is because money has been seen as one of the most crucial variables. Access to capital enables small and medium-sized organisations to enhance their company growth and adopt advanced manufacturing technologies, hence assuring their competitiveness (Olawuni & Oyeladun, 2022). Nevertheless, deposit money banks, particularly financial institutions, have emerged as significant sources of loans and a potent and efficient means of financing small and medium-sized firms. Deposit money banks provide loans and advances to small and medium size firms to support their investment and development operations, hence facilitating their growth and enhancing their overall performance. Banks that accept deposits are crucial institutions for storing, mobilising, and allocating financial resources. Deposit money banks play a crucial role in promoting the growth and development of small and medium scale firms in Nigeria, particularly for the small and medium size enterprises. This makes them a significant phenomenon, as stated by Oladosu (2019).

Nigerian banks, mostly focused on serving big borrowers, have implemented a proactive lending approach called the Small and Medium Industries Equity Investment Scheme (SMIEIS) from August 1, 2001. This strategy aims to meet the credit requirements of small borrowers. All Nigerian deposit money banks are required under the programme to invest 10 percent of their pre-tax revenues in small and medium-sized businesses in the form of equity. The objective is to enhance the movement of financial resources to rejuvenate the productive sector of the economy (Tomola, 2018). The twenty-two banks participating in the SMIEIS programme allocated a total of N59.2 billion by the end of the first quarter of 2020. Out of this amount, N28.1 billion, which is equivalent to 47.3 percent, was invested in 558 projects connected to SMEs in Nigeria (Central Bank Nigeria, 2021). By providing financial resources to SMEs, banks are effectively contributing to society. This support leads to augmented production, expanded capital investments, improved living standards, higher employment rates, and ultimately ensures economic growth (Sule, Ibrahim & Saminu, 2023). In congruent with Oluyemi and Ayodele (2020), offering loans to SMEs with careful attention may effectively provide prospects for self-employment. The use of loans is essential for establishing and expanding a firm, allowing it to achieve and sustain a favourable scale that takes advantage of economies of scale. Additionally, it might be utilised to enhance casual endeavours and enhance their effectiveness. Resource substitution may be accomplished by utilising deposit money bank loans that are made available to small and medium business firms (SMEs).

Notwithstanding the substantial contributions of SMEs to the Nigerian economy, SMEs nevertheless encounter several obstacles. The primary obstacles confronting SMEs are insufficient finances and limited resources. This is because several SMEs lack the necessary funds to begin their operations, and the exorbitant interest rates imposed by banks discourage them from seeking loans. Deposit money banks use rigorous and standardised criteria to evaluate the creditworthiness of borrowers. Using these standards, we may evaluate the

borrower's financial stability and the company's potential for success. Lenders in this sector give preference to applicants who have a history of successful loans and who can provide tangible assets as collateral. The variables often taken into account include financial robustness, profitability, total assets, historical performance, managerial excellence, interbank relationships, payment history, future company prospects, business hazards, feedback from trade partners, and collateral. Typically, banks want a personal guarantee for loans provided to SMEs. The inclinations and proclivities of the deposit money institutions have exacerbated the dearth of funding for small and medium business firms. This has a detrimental effect on the accessibility of finances for SMEs and their overall performance.

Numerous studies have examined the impact of banks credit on the performance of SMEs in both developed and developing nations, including Nigeria. Regrettably, there is a scarcity of studies on the consequences of bank loans in enhancing the performance of small and medium scale firms (SMEs) in Nigeria. Most of the existing studies primarily examined the impact of SMEs on the economic development of Nigeria. Furthermore, the majority of the conducted studies utilised data sets that were insufficient in length to provide precise and reliable outcomes. Therefore, this research aims to investigate the implications of bank credit in deepening small and medium scale enterprises (SMEs) performance in Nigeria, focusing on the stated issue and gap. The research utilised a sample of observations spanning from 1990 to 2022, covering a period of around thirty-three years, in order to provide precise, reliable, and robust findings.

Aim and Objectives of the Study

This study generally examined the implications of bank credits in deepening small and medium scale enterprises (SMEs) performance in Nigeria. Specifically, the study;

- i. Examined the effect of credit to private sector on small and medium scale enterprises (SMEs) output,
- ii. Determined the effect of credit to agricultural sector on small and medium scale enterprises (SMEs) output,
- iii. Analysed the effect of credit to manufacturing sector on small and medium scale enterprises (SMEs) output,
- iv. Diagnosed the effect of credit to SMEs on small and medium scale enterprises (SMEs) output, and
- v. Evaluated the effect of lending rate on small and medium scale enterprises (SMEs) output in Nigeria.

Literature Review

Theoretical Framework

The Pecking Order Theory lays the groundwork for this study. Myers first proposed the Pecking Order concept in 1984. A financial theory that is familiar with the inner workings of tiny firms is the Pecking Order hypothesis. This provides illumination on the motivations that influence the capital structure choices of small and medium business firms (SMEs). This idea posits that companies have a preference for utilising internal sources of capital as a first option, and will only turn to external sources, i.e. deposit money institutions, if internal sources prove to be insufficient. This theory has been shown to be applicable to the financing of SMEs. The majority of SMEs often begin by utilising internal funding prior to seeking external sources.

Established organisations, by their very nature, have had more chances to amass retained profits compared to newer enterprises, resulting in a larger pool of capital to support operational expansion. The pecking order hypothesis proposes that it is preferable to use such money before resorting to external sources of funding. In their study, Holmes and Kent (1991) discovered that small enterprises face a heightened kind of pecking order in their decision-making process due to the restricted availability of suitable external sources of financing. Small enterprises exhibit variations in their capital structure, with their heavy dependence on the pecking order being only one of the factors that contribute to the distinctiveness of their financing decisions. Small enterprises depend on private capital markets, while bigger corporations get funding from public markets. Access to information on small businesses is far more limited compared to the easily accessible information included in the annual reports of bigger companies. The limited access of small firms to private markets constrains the range of financing options available to them. The majority of small enterprises depend on commercial banks and finance companies to get money (Berger & Udell, 1998).

Typically, small companies incur a greater cost of capital compared to bigger organisations. The loan amount and insufficient data on the operational efficiency of the small businesses Compel lenders to safeguard their investment by requiring elevated rates of return, manifested as elevated interest rates and elevated capital costs for the small enterprise. To mitigate the impact of augmented capital expenses, smaller companies are compelled to rely on a greater proportion of short-term debt, which incurs lower expenses but amplifies the firm's level of risk. When extending loans to small companies, the majority of financial institutions mandate that the proprietors of those enterprises provide a personal guarantee for the loan. These personal guarantees provide the institution with the ability to seek compensation from the personal assets of the small company owner if they fail to meet their financial obligations (Berger & Udell, 1998). The limitations on the variety of financial options accessible to SMEs, together with the firm's preference for utilising internal sources of capital initially, result in a distinct framework for small businesses. Romano, Tanewski, and Symrnios (2001) characterise the scenario as an intricate assortment of elements that impact the financing choices of owner-managers of small to medium-sized firms (SMEs).

Conceptual Literature

Bank Credit

Credit is a contractual arrangement in which a borrower obtains immediate access to a valuable asset or funds, with the understanding that they would return the lender in congruent with predetermined conditions at a later period. The primary source of revenue for banks has been recognised as credit generation (Kargi, 2011). Hornby (2015) defines credit as the issuance of a card by banks, which enables the bearer to withdraw money from bank branches and use checks to pay for goods and services, in congruent with a specified maximum limit for each transaction. Credit refers to the provision of financial resources by banks to customers, which can take various forms i.e. overdrafts, personal loans, bridging loans, local purchases, order credits, direct credit facilities, probate advances, export credits, import facilities, and equipment leasing. These resources are made available to customers at an interest rate, which the customers will need to pay on the facility. This allows for the generation of profit margins. Credit refers to the act of lending money from a lender to a borrower.

Criteria Needed for Credit Approval

Credit administration may be seen as a consequence of credit generation. When it comes to loan approval, several aspects are taken into account. However, the most crucial ones are often known as the seven (7) cannons of lending (Jhingan, 2012). The following items are:

a. Character: This pertains to the question of whether the client can be relied upon to adhere to the terms and circumstances of the agreement. It is possible for someone to have the ability to repay a debt, but their personal qualities may make them hesitant to do so, despite having the financial means (Jhingan, 2012).

b. Capacity: This pertains to the borrower's capacity to repay the loan, namely if the client earns sufficient cash from their company to meet the loan obligations. When assessing the customer's ability, the financial records of the organisation, if it is a corporation, are thoroughly examined. For individual customers, credit checks are conducted by their company to verify their financial capacity to repay the loan (Jhingan, 2012).

c. Capital: Capital refers to the financial resources that a company has that may be utilised to settle debts in the event of the company's liquidation, after all other options have been exhausted. It symbolises the borrower's ownership interest in the firm in an equal manner. One must assess if the firm has enough money to support its current operations and the loan it is seeking (Jhingan, 2012).

d. Collateral: This serves as a contingency measure in case the primary source of repayment defaults on loan repayment. Typically, banks are reluctant to use this option due to the extensive paperwork and legal procedures involved. The collateral may consist of real estate, stocks and shares in reputable enterprises, or any other suitable assets as determined by the bank (Jhingan, 2012).

e. Condition: This pertains to the operational context in which the firm functions. The borrower's capacity to fulfil financial commitments is influenced by economic circumstances. The borrower and the lender have little influence over certain economic factors, i.e. inflation (Jhingan, 2012).

f. Cash flow: When analysing cash flow, we take into account the anticipated cash coming in and going out from the consumer. Can the firm produce sufficient cash inflow, after accounting for outflows, to repay the loan? Jhingan (2012).

g. Considerations: This pertains to additional considerations that are likely to arise throughout the credit approval procedure. Factors i.e. the obligor's limit and the nature of the lending institutions' portfolio are taken into account (Jhingan, 2012).

Concept of Small and Medium Scale Enterprises

In congruent with the National Council of Industries (2009), SMEs are commercial enterprises whose total expenses, exclusive of land, do not exceed two hundred million naira (N200,000,000.00). In congruent with Sanusi (2013), small and medium size businesses may be defined as enterprises that employ between five and one hundred individuals and have an annual revenue of around four hundred thousand Naira (N400,000). This definition is also supported by Eniola, Entebangm, and Sakariyau (2015).

Financing Options of Small and Medium Scale Enterprises in Nigeria

Debt Sources of Finance: Debt refers to the financial resources, both formal and informal, that are utilised in business and need regular interest payments and repayment of the principal

amount when the financial instrument becomes due. The formal sources of debt financing for SMEs in Nigeria consist of loans and advances provided by banks (both commercial and development), as well as national agencies established to support SMEs, i.e. the National Directorate of Employment (NDE), the Export Stimulation Loans (ESL) offered by the CBN, the National Poverty Eradication Programme (NAPEP), and cooperative credit societies.

Owner's Capital/Equity Sources of Finance: Equity refers to the owner's capital investment in the firm. Equity capital may be augmented by retaining profits generated from operations. Equity is crucial for providing the first funds necessary to cover both capital and preoperational expenditures. Successful businesses that provide a return on investment (ROI) higher than the cost of borrowing money are the only ones that should be considered, according to financial theory. Borrowed funds are not expected to constitute a large chunk of the initial investment or even a substantial percentage of the total capital.

Funds from Specialized Financial Institutions: It is important to acknowledge the government's initiatives in enhancing the financial resources of SMEs by establishing specialised and advanced institutions and issuing specific directives to formal financial institutions, including the Central Bank of Nigeria (CBN), with the aim of promoting greater lending to local SME borrowers. Additional initiatives include the provision of financial resources by non-governmental organisations (NGOs) specifically aimed at supporting the informal sector, particularly the SMEs sector.

Finance from Venture Capitalist: A venture capitalist offers funding for a new business, the growth of an established company, or the rescue of a struggling organisation. Venture capital, in some instances, entails investing in a firm where the venture capitalist obtains a certain percentage of the company's share capital. Venture money is inherently risky, since it lacks security and is thus susceptible to the potential collapse of the firm, similar to other stockholders. A venture capitalist's involvement in a firm's success is shown by their individual and financial gains, which are realised when they sell their investment or when the company goes public on the stock market.

Empirical Literature

In their study, Sule, Ibrahim, and Saminu (2023) investigated the impact of loans from the banking sector on Nigeria's real sector. The ARDL model is utilised. The outcome of the bound testing suggests that there exists a persistent relationship between the variables of interest, with Real GDP being the dependent variable. The findings suggest that there is a positive correlation between the credit provided by commercial banks and Nigeria's GDP, both in the short term and in the long term. The study revealed a negative correlation between domestic private investment and the real sector, both in the short and long term. The econometric model's estimated equations for both the long and short runs revealed a substantial positive correlation between government capital spending and the real sector. Olawuni and Oyeladun (2022) conducted an empirical analysis to investigate the influence of deposit money bank lending on Nigeria's SMEs from 1986 to 2020. They utilised co-integration and error correction modelling (ECM) approaches in their study. The findings indicate that there is a long-term association between SMEs and the chosen macroeconomic variables in the model, in relation to the production of SMEs. The research also found that both savings time deposit and exchange rate had a substantial influence on the production of SMEs in Nigeria.

Obalemo (2021) investigated the impact of SMEs on the economic development of Nigeria. The research included a span of 25 years, namely from 1995 to 2019. The study utilised an ex-post facto research design. The research encompasses a population of 39,575,700 Small and Medium Enterprises (SMEs) in Nigeria. The research utilised descriptive statistics, correlation analysis, unit root test, and regression analysis utilising t-test and f-test. The data obtained from the CBN statistics bulletin were evaluated utilising the E-View version 9.00 software. The research revealed a notable and substantial impact of SMEs on the economic development of Nigeria.

Olowookere, Hassan, Adewole, and Aderemi (2021) examined the correlation between funding for SMEs and the achievement of sustained economic development throughout the period from 1992 to 2019. Following the completion of many preliminary tests, including unit root and cointegration analysis, the research utilised the Fully Modified Ordinary Least Square and Granger causality methods. The analysis revealed a positive and substantial correlation between deposit money bank loans to SMEs and GDP growth rate. However, the association between gross fixed capital creation and commercial bank total credit to the private sector with GDP growth rate was found to be negligible and positive. Emmanuel and Willie (2020) investigated the impact of SMEs on the economic development of Nigeria by analysing data from 1986 to 2018. The data gathered was analysed utilising the Vector Autoregression (VAR) approach. The estimate findings revealed that the growth rate of SMEs production has a substantial and positive impact on the growth rate of gross domestic product (GDP), which serves as a proxy for overall economic growth. Moreover, it has been shown that SMEs account for 61 percent of the rise in GDP. In their study, Clement and Clement (2020) examined the effect of SMEs on the economic development of Nigeria. The study utilised secondary data obtained from reputable sources i.e. the World Bank Group, CBN Statistical Bulletin, and Index Mundi. The study also utilised a correlation research strategy. Economic growth was measured utilising statistics on employment creation, poverty reduction, and income growth. The research found that small enterprises had a substantial influence on job creation, with 72 percent of the variance in employment growth being attributed to these enterprises. The impact of SMEs on poverty reduction is favourable, with around 60 percent of the variance in poverty reduction being attributed to these enterprises.

Okere, Okere, and Nwaneto (2020) examined the impact of bank loans on SMEs in Nigeria over the period of 1981-2018. The data for this research were obtained from the statistics bulletin of the CBN. The research utilised ARDL bound cointegration test technique and error correction. The research found that there is a positive and substantial correlation between bank loans and the performance of SMEs in Nigeria. In their study conducted in 2019, Dada examined how the loan provided by commercial banks affects the growth of SMEs. They utilised the OLS approach to estimate multiple regression models. The upshots indicate that the credit provided by commercial banks to SMEs, as well as the savings and time deposits held by commercial banks, have a positive and substantial influence on the development of SMEs. This development is measured by the output of wholesale and retail trade as a component of the GDP. On the other hand, the exchange rate and interest rate have a negative effect on the development of SMEs. In a study conducted by Bello, Jibir, and Ahmed (2018), the objective was to determine the impact of SMEs on the economic development of Nigeria. The researchers utilised a supplementary approach to gather data by utilising the annual statistics

bulletin released by the CBN. Furthermore, the data included the time period from 1986 to 2016, and regression analysis was utilised for data analysis. The research revealed a clear correlation between small enterprises and the economic growth of Nigeria. From 1990 to 2016, researchers Andabai and Eze (2018) looked at the correlation between bank loans and the growth of SMEs in Nigeria. Secondary data used in this study came from the CBN Statistical Bulletin. The application of the VEC Model proved that in the near run, there is no statistically significant relationship between bank loans and the growth of SMEs in Nigeria. There was no correlation between bank loans and the growth of SMEs in Nigeria, pursuant to the causality test.

Methodology

The nature of data in research is contingent upon the objectives of the study and the specific sort of research being conducted. Consistent with the aforementioned statement, this study primarily focused on doing library research by utilising only secondary sources. The data were derived from the Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) publications, including the time span from 1990 to 2022. This yielded a comprehensive set of sample observations spanning thirty-three years.

Model Specification

The research made use of multiple linear regression model to accomplish its aims and enhance the accuracy of economic estimations. This model was utilised to establish the correlation that exists between our explained and explanatory variables. Nevertheless, the model is specified in its functional, mathematical, econometrical and log linear forms as follows:

The model's functional specification is provided as follows:

$$\text{SMEO} = f(\text{CPS}, \text{CAS}, \text{CMS}, \text{CSME}, \text{LR}) \quad (1)$$

Model (1) above is transformed into a mathematical model as follows:

$$\text{SMEO}_t = \beta_0 + \beta_1 \text{CPS}_t + \beta_2 \text{CAS}_t + \beta_3 \text{CMS}_t + \beta_4 \text{CSME}_t + \beta_5 \text{LR}_t \quad (2)$$

Model (2) above is transformed into an econometric model as follows:

$$\text{SMEO}_t = \beta_0 + \beta_1 \text{CPS}_t + \beta_2 \text{CAS}_t + \beta_3 \text{CMS}_t + \beta_4 \text{CSME}_t + \beta_5 \text{LR}_t + \mu_t \quad (3)$$

Model (3) above is transformed into an econometric model as follows:

$$\ln \text{SMEO}_t = \beta_0 + \beta_1 \ln \text{CPS} + \beta_2 \ln \text{CAS} + \beta_3 \ln \text{CMS} + \beta_4 \ln \text{CSME}_t + \beta_5 \text{LR}_t + \mu_t \quad (4)$$

Where: SMEO = SMEs output, CPS = Credit to private sector, CAS = Credit to agricultural sector, CMS = Credit to manufacturing sector, CSME = Credit to SMEs, LR = Lending Rate, β_0 = Regression constant, $\beta_1 - \beta_4$ = Coefficients of proxies of independent variable, \ln = Natural log, μ_t = Stochastic or error term

A Priori Expectation: $\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$; $\beta_5 < 0$.

Data Analysis Techniques

The analytical process for this work started with pre-estimation tests to verify that the estimated model is not spurious and to determine whether a co-integrating regression can be calculated. Due to the presence of variables with a combination of stationarity at levels and at first difference, the ARDL approach was utilised. Therefore, the ARDL model utilised in this work is defined as follows:

$$\begin{aligned} \Delta \ln(SMEO_t) = & \beta_0 + \sum_{t=1}^p \beta_{1i} \Delta \ln(SMEO_{t-1}) + \sum_{t=1}^q \beta_{2i} \Delta \ln(CPS_{t-1}) + \sum_{t=1}^q \beta_{3i} \Delta \ln(CAS_{t-1}) \\ & + \sum_{t=1}^p \beta_{4i} \Delta \ln(CMS_{t-1}) + \sum_{t=1}^p \beta_{5i} \Delta \ln(CSME_{t-1}) + \sum_{t=1}^p \beta_{6i} \Delta \ln(LR_{t-1}) \\ & + \alpha_{1i} \Delta \ln(SMEO_{t-1}) + \alpha_{2i} \Delta \ln(CPS_{t-1}) + \alpha_{3i} \Delta \ln(CAS_{t-1}) + \alpha_{4i} \Delta \ln(CMS_{t-1}) \\ & + \alpha_{5i} \Delta \ln(CSME_{t-1}) + \alpha_{6i} \Delta \ln(LR_{t-1}) + \varepsilon_{1i} \end{aligned} \tag{5}$$

Where: Δ = the difference operator and indicates the optimum lag; t = time lag; $\alpha_1 - \alpha_6$ = long-run dynamic coefficients of the model; $\beta_1 - \beta_6$ = short-run dynamic coefficients of the model; ε_{1i} = serially uncorrelated stochastic term with zero mean and constant variance.

Data Analysis and Discussion of Findings

Unit Root Test

The unit root test was conducted utilising the Augmented Dickey-Fuller (ADF) test. The summary of upshots for the unit root tests were presented in Table 1:

Table 1: Augmented Dickey-Fuller (ADF) Test Results

Variables	At Levels		At First Difference		Order of Integration
	ADF	Mackinnon Critical Value @ 5%	ADF	Mackinnon Critical Value @ 5%	
LOG(SMEO)	-3.296838	-2.960411	-	-	I(0)
LOG(CPS)	-2.663469	-2.957110	-4.054323	-2.960411	I(1)
LOG(CAS)	-1.342375	-2.957110	-6.440854	-2.960411	I(1)
LOG(CMS)	-2.011981	-2.957110	-4.733913	-2.960411	I(1)
LOG(CSME)	-1.221272	-2.957110	-5.736828	-2.960411	I(1)
LR	-4.554415	-2.957110	-	-	I(0)

Source: Authors' Computation, 2023.

The summary of the ADF unit root tests conducted on all variables of the model are shown in Table 1. Clearly, SMEs output (SMEO) and lending rate (LR) were stationary at levels, indicating integration at order zero, that is, I(0). In contrast, credit to the private sector (CPS), credit to the agricultural sector (CAS), credit to the manufacturing sector (CMS), and credit to small and medium-scale enterprises (CSME) were stationary after first differencing, suggesting integration at order one, denoted as I(1). In summary, the presence of mixed stationarity in the variables, where they are stationary at order zero and one, required the use of ARDL to estimate the long-term link between the variables.

Lag Selection Criteria

The lag selection criteria upshot is presented in Table 2:

Table 2: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1205.652	NA	4.85e+27	80.77679	81.05703	80.86644
1	-1082.197	189.2978	1.50e+25	74.94645	76.90812*	75.57400
2	-1033.887	54.75091*	9.06e+24*	74.12580*	77.76892	75.29127*

Source: Authors' Computation, 2023.

Table 2 displays the upshots of the lag selection criteria, which indicate that the majority of the criteria identified a lag of two as the most optimum lag length. Consequently, all subsequent analyses were conducted utilising the most favourable lag duration of two.

ARDL Bounds Cointegration Test

The upshot of ARDL bounds cointegration test is presented in table 3 below:

Table 3: ARDL Bounds Test

Level of Significance	Critical Values		Wald Test (F-Value)	K
	Lower Bound	Upper Bound		
10%	2.22	3.09	4.940568	5
5%	2.26	3.49		
2.5%	2.88	3.87		
1%	3.29	4.37		

Source: Authors' Computation, 2023.

In congruent with the ARDL Bounds test outcome in table 3, the null hypothesis posits that there is no long-term link between the variables. The F-statistic of 4.940568 in the result shows that the null hypothesis of no long run association among the variables is rejected at all critical levels (lower and upper limits). This suggests the presence of a long run relationship among SMEs output and other explanatory variables i.e. credit to the private sector, credit to the agricultural sector, credit to the manufacturing sector, credit to SMEs, and the lending rate. This association holds true over the whole study period, spanning from 1990 to 2022. After verifying that the variables are cointegrated and exhibit a long-term relationship, we proceed to estimate the parameters utilising the ARDL approach.

Long Run Autoregressive Distributive Lag (ARDL) Analysis

The outcome of long run ARDL analysis are presented in Table 4:

Table 4. Long Run ARDL Analysis Results

Variable	Dependent Variable: SMEO			
	Coefficient	Std. Error	t-Statistic	Prob.*
LOG(CPS)	0.341204	0.798688	0.427206	0.6912
LOG(CAS)	0.232675	0.265221	0.877287	0.3926
LOG(CMS)	1.074700	0.225243	4.771291	0.0002
LOG(CSME)	0.453336	0.150782	3.006558	0.0397
LR	-0.116929	0.034482	-3.391001	0.0035
C	6.303128	0.970137	6.497151	0.0000

Source: Authors' Computation, 2023.

Interpretation of Result

Following the results above, the coefficient estimate of private sector credit appeared to have positive association with SMEs' output. Since the coefficient of private sector credit is 0.341204, we may deduce that a one-unit rise in private sector credit would lead to a 0.341204 rise in SMEs' output. And because the p-value for private sector credit is 0.6912, which is more than 0.05, we may infer that this variable is not statistically significant. Therefore, it has a negligible effect on the output of SMEs. There is no statistically significant effect of credit to

private sector on SMEs' output in the long term, but this does not rule out its positive influence. In addition, there is positive association between credit to agricultural sector and SMEs' output. SME output would increase by 0.232675 for every one unit rise in credit to the agricultural sector according to the coefficient of credit to agricultural sector (0.232675). In addition, the credit to agricultural sector does not have statistical significant effect, since the p-value (0.3926) is more than the 0.05 threshold. Therefore, it has a negligible effect on the output of SMEs. Hence, credit to agricultural sector boosts SMEs' output in the long run, even though the effect is not statistically significant. The output of SMEs is also directly related to credit to manufacturing sector. One-unit rise in credit to the manufacturing sector would lead to a 1.074700 rise in the SMEs output, according to the coefficient of credit to the manufacturing sector, which is 1.074700.

Since the p-value for manufacturing sector credit is 0.0002, which is less than 0.05, credit to manufacturing sector is statistically significant. Consequently, it has a major impact on SMEs' output. From this, we may deduce that credit to manufacturing sector has a long-term positive and significant effect on SMEs' output. Also, credit to SMEs increases their output directly. A unit rise in credit to SMEs would lead to a comparable rise of 0.453336 in SMEs output, according to the coefficient of credit to SMEs, which is 0.453336. A p-value of 0.0397 for SME credit falls below the significance level of 0.05, suggesting that SME credit has statistically significant effect on SMEs' output. Hence, credit to SMEs has a long-term positive effect on their output, suggesting that private sector lending is a good investment. Lastly, SMEs' output is inversely related to the lending rate. With a lending rate coefficient of -0.116929, 0.116929 decrease in SMEs' output would occur for every one unit rise in the lending rate. In contrast, a 0.116929 rise in SMEs' output upshots from a one-unit reduction in the loan rate. Lending rate is considered statistically significant since its p-value (0.0035) is lower than the significance level of 0.05. As an upshot, it significantly affects the output of SMEs. Thus, it is reasonable to infer that the lending rate significantly undermines SMEs' capacity to produce over the long run.

Short Run Autoregressive Distributive Lag (ARDL) Analysis

The upshots of short run ARDL analysis are presented in Table 5:

Table 5: Short Run ARDL Analysis Results

Variable	Dependent Variable: SMEO			
	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(CPS(-1))	0.085904	0.086200	0.996563	0.3330
DLOG(CAS)	0.033343	0.047291	0.705046	0.4903
DLOG(CMS)	1.642844	0.473195	3.471813	0.0255
DLOG(CMS(-1))	-0.271278	0.174705	-1.552780	0.1389
DLOG(CSME)	0.564058	0.113201	4.982797	0.0001
DLOG(CSME(-1))	0.171159	0.052460	3.262646	0.0046
D(LR)	-0.025235	0.006949	-3.631768	0.0021
D(LR(-1))	0.026616	0.006882	3.867361	0.0012
CointEq(-1)*	-0.522382	0.109323	-4.778351	0.0002
$R^2 = 0.718045$, Adj $R^2 = 0.615516$; DW = 2.070512				

Source: Authors' Computation, 2023.

The estimated coefficient of credit to private sector suggests a direct implication on output of SMEs. The coefficient which is 0.085904, signifies that a unit rise in credit to the private sector would result in a 0.085904 rise in the output of SMEs. Furthermore, the p-value (0.3330) for credit to the private sector, which is above the threshold of 0.05, suggests that credit to the private sector lacks statistical significance and hence has an insignificant impact on the output of SMEs. Therefore, it may be inferred that credit to the private sector over the sampled period had beneficial impact on the output of SMEs in the short term, but not significantly. Furthermore, there exists a direct influence from credit to agricultural sector and the overall output of SMEs. The coefficient of credit to agricultural sector, which is 0.033343, signifies that a unit rise in credit to agricultural sector would result in a 0.033343 rise in the output of SMEs. Furthermore, the p-value (0.4903) for credit to the agricultural sector, which is above the threshold of 0.05, suggests that credit to the agricultural sector is not statistically significant. Therefore, it has an insignificant impact on the production of SMEs. It may thus be inferred that providing credit to the agricultural sector has a beneficial impact on the production of SMEs in the short term, but insignificant. Furthermore, there exists a direct deepening effect from credit to the manufacturing sector on SMEs output. The coefficient of credit to the manufacturing sector, which is 1.642844, signifies that a unit rise in credit to manufacturing sector would result in a 1.642844 rise in the SMEs output. The p-value (0.0255) for credit to the manufacturing sector, which is less than 0.05, shows that credit to manufacturing sector is statistically significant. This suggests that credit to the manufacturing sector has substantial influence on the output of SMEs. Therefore, it can be inferred that providing credit to the manufacturing sector favourably and substantially impacted on the output of SMEs in the immediate term.

Moreover, there exists a driving effect of credit to SMEs on the output of SMEs. Therefore, the credit coefficient for SMEs, which is 0.564058, signifies that a unit rise in credit to SMEs will result in a corresponding rise of 0.564058 in SMEs output. The p-value (0.0001) for credit to SMEs, being less than 0.05, suggests that credit to SMEs is statistically significant and hence has a substantial impact on SMEs output. This implies that providing loans to SMEs has a favourable and substantial impact on the output of SMEs in the immediate term. The ARDL upshot shows that the estimated parameter of lending rate suggests a negative impression on the output of SMEs. The coefficient of the lending rate, which is -0.025235, signifies that a unit rise in the lending rate would result in a loss of 0.025235 in the output of SMEs. Furthermore, the lending rate's p-value (0.0021), being lower than 0.05, signifies its statistical significance. This implies that the lending rate has a substantial impact on the production of SMEs. Therefore, it can be inferred that the lending rate has a substantial detrimental impact on the output of SMEs in the immediate term.

Furthermore, the finding of the error correction model shown in Table 5 indicates that the error term is both negative and statistically significant. The error correction term's coefficient of -0.522382 indicates a rapid adjustment towards long-term equilibrium. This means that around 52 percent of the disequilibrium is addressed annually by changes in SMEs output. This suggests that in the event of a disturbance, the long-term equilibrium will readily revert back to its stable condition. The elevated coefficient value of the error correction term also signifies that restoration of the steady-state relation will occur rapidly in the event of system distortion. The empirical data provided in Table 5 established an adjusted R-squared

value of 0.615516. This indicates that the obtained coefficient of determination is dependable. The findings suggest that when the coefficient of determination is adjusted, around sixty-two percent (62 percent) of the fluctuations in SMEs output can be attributed to credit provided to the private sector, credit provided to the agricultural sector, credit provided to the manufacturing sector, credit provided to SMEs, and the lending rate. The remaining thirty-eight percent (38 percent) of the variability in the model is accounted for by the error term, which represents unknown factors that are not included in the model. Furthermore, it is evident that both the short-term and long-term outcomes exhibited the same polarity for the variables, indicating a consistent impact of the independent variables (credit to private sector, credit to agricultural sector, credit to manufacturing sector, credit to SMEs, and lending rate) on the dependent variable (SMEs output).

Post Estimation Tests

Table 6: Post-Estimation Test Results

Test	Statistics	P-Value	Null Hypothesis	Decision
Jarque Bera (Normality) Test	0.825760	0.661414	H₀ : Normal distribution	Accept H ₀
Breusch-Godfrey Serial Correlation LM Test	2.582298	0.1087	H₀ : No serial correlation	Accept H ₀
Breusch-Pagan-Godfrey Heteroskedasticity Test	1.065964	0.4427	H₀ : Homoscedasticity	Accept H ₀
Ramsey RESET test	0.000384	0.9846	H₀ : Correctly specified	Accept H ₀

Source: *Authors' Computation, 2023.*

The Jarque Bera test indicates that the model follows a normal distribution. The Breusch-Godfrey Serial Correlation LM test indicates that the model does not exhibit any serial correlation issue. Furthermore, the outcome of the Breusch-Pagan-Godfrey heteroskedasticity test suggests that the model exhibits homoscedasticity. Finally, the Ramsey RESET test indicates that the model is well defined. This suggests that the functional form of the model is accurate.

Discussion of Findings

The research examined the implications of bank credit in deepening small and medium scale enterprises (SMEs) performance in Nigeria. The finding of the study revealed that there exists a positive correlation, while not statistically significant, between credit extended to the private sector and the output of SMEs in Nigeria. The upshots are consistent with the research conducted by Dada (2014), which indicated that providing credit to the private sector significantly enhances the growth and development of SMEs in Nigeria. Furthermore, there exists a positive correlation that is not statistically significant between provision of credit to the agricultural sector and the output of SMEs in Nigeria. This conclusion aligns with the research conducted by Sule, Ibrahim and Saminu (2023), which demonstrated that loans provided by commercial banks to the agricultural sector had a favourable impact on the overall development of the real sector in Nigeria. This discovery also aligns with the research conducted by Olawuni and Oyeladun (2022), which concluded that providing bank loans to the agricultural sector had a beneficial effect on the development of the Nigerian economy.

Furthermore, there exists a strong and meaningful correlation between the provision of credit to the manufacturing sector and the production of SMEs in Nigeria. This discovery aligns with the research conducted by Oladosu (2019), which concluded that providing credit to the manufacturing sector had a beneficial impact on the overall performance of the economy.

Furthermore, there exists a strong and meaningful correlation between the provision of credit to SMEs and the output of these enterprises in Nigeria. This finding is connected to the study conducted by Okere, Okere, and Nwaneto (2020), which revealed that credit provided by deposit money banks to SMEs had a considerable impact on the production of SMEs in Nigeria, both in the short term and the long term. There exists a negative and statistically significant correlation between the lending rate and the output of SMEs in Nigeria. This discovery is connected to the research conducted by Obalemo (2021), which concluded that the loan rate had a notable adverse effect on the production of SMEs in Nigeria.

Conclusion and Recommendations

The research assessed the implications of bank credit in deepening small and medium scale enterprises (SMEs) performance in Nigeria between the years 1990 and 2022. Based on the findings, the study concluded that bank lending has a positive and significant impact on the performance of SMEs in Nigeria during the research period (1990 – 2022). In congruent with the upshots, the study suggested that deposit money banks should raise the amount of credit they provide to SMEs in the economy. Additionally, the regulatory authorities should establish a mechanism to enforce banks to provide credit facilities to SMEs under favourable conditions, i.e. requiring banks to allocate a significant portion of their loans to private investors. Finally, the regulatory bodies should arrange awareness campaigns for private sectors and small and medium size firms in Nigeria on the advantages and prerequisites for obtaining loan facilities from deposit money banks.

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