UNLOCKING SME FINANCING IN NIGERIA: THE ROLE OF MONETARY POLICY AND MACROECONOMIC STABILITY (1990-2025)

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Abstract
Small and Medium Enterprises (SMEs) are central to employment creation, innovation and inclusive economic development in emerging economies. However, limited access to affordable finance remains a major constraint to SME growth, particularly in Nigeria. This study examines the influence of monetary policy and macroeconomic stability on bank credit to SMEs in Nigeria between 1990 and 2025. Using annual data obtained from the Central Bank of Nigeria Statistical Bulletin, the study investigates the effects of exchange rate, real gross domestic product (RGDP), broad money supply (M2), and monetary policy rate (MPR) on SME credit. The study applies descriptive statistics, Ordinary Least Squares estimation, Augmented Dickey-Fuller stationarity testing and Johansen cointegration techniques. The findings indicate that RGDP and money supply significantly influence SME credit, while monetary policy rate has a negative but statistically insignificant relationship. The study confirms the existence of a long-run relationship between macroeconomic conditions and SME financing. The paper contributes to the literature by providing evidence on the monetary transmission mechanisms affecting SME financing in a major African emerging economy.

Keywords: SMEs; monetary policy; financial inclusion; bank credit; macroeconomic stability; Nigeria

1.0 Introduction

Small and Medium Enterprises (SMEs) occupy a central position in Nigeria's economic development process because of their contribution to entrepreneurship development, employment creation, income generation and industrial transformation. Beyond their contribution to output creation, SMEs provide opportunities for economic inclusion by enabling individuals and communities to participate in productive activities. However, the ability of SMEs to perform these roles depends significantly on their access to adequate and affordable financing.

Financing constraints remain one of the most persistent challenges confronting SMEs in developing economies. Unlike large corporations that possess established credit histories and greater access to capital markets, SMEs often rely heavily on financial institutions for external funding. Inadequate collateral, limited financial records, information asymmetry and perceived lending risks frequently restrict their ability to access formal credit. Empirical evidence from Nigeria demonstrates that entrepreneurship financing is closely connected with employment creation and industrial development, suggesting that improved financing mechanisms are essential for strengthening the contribution of SMEs to economic transformation (Aderemi et al., 2022, 2023).

The Nigerian financial system has undergone significant transformation over the past three decades through banking reforms, monetary policy adjustments, financial inclusion initiatives and increasing digitalization of financial services. Despite these developments, access to credit by SMEs remains constrained. Okoh (2020) noted that strengthening SME financing is important for boosting productive capacity and improving economic sustainability in Nigeria. Evidence from the banking sector also indicates that financial intermediaries play an important role in mobilizing resources and directing credit towards productive economic activities (Manasseh et al., 2021), while Afrogha et al. (2023) examined how monetary policy influences the performance of deposit money banks, which remain the main channel of formal credit to SMEs.

The availability of SME financing is not determined solely by firm-level characteristics; it is also influenced by broader macroeconomic conditions. Monetary policy affects credit availability through liquidity conditions, interest rates and banking sector behaviour. Changes in money supply influence financial system liquidity, while monetary policy rates affect borrowing costs and lending decisions. Evidence from Nigeria indicates that monetary aggregates remain important in explaining macroeconomic outcomes, particularly inflationary behaviour and financial conditions (Okoye et al., 2019; Samuel et al., 2019).

Exchange rate stability represents another important dimension of SME financing conditions in Nigeria. Exchange rate fluctuations influence production costs, imported inputs, investment planning and business uncertainty. Research on exchange rate dynamics in Nigeria demonstrates that currency movements have significant implications for economic performance and investment decisions (Okoh et al., 2021; Okoye et al., 2019). For SMEs that depend on imported equipment and intermediate inputs, exchange rate instability may increase operational costs and reduce their capacity to access and repay credit.

Developments in financial technology have also introduced new opportunities for expanding financial access among small businesses. Technology-based financial service delivery has improved accessibility and convenience within the Nigerian banking sector (Okoye et al., 2018), and emerging evidence suggests that FinTech innovations are influencing financial

behaviour and opening alternative pathways for financial inclusion (Samuel et al., 2023). Okoh et al. (2025) examined the challenges small enterprises face in adopting such innovations, while Onoh et al. (2026) linked digital financial inclusion and microfinance development to poverty reduction in Nigeria. Nevertheless, technological developments operate within a wider macroeconomic environment that determines financial stability and credit expansion.

Despite the strategic importance of SMEs to Nigeria's economic development, limited access to finance continues to constrain their growth and sustainability. Government and monetary authorities have introduced several initiatives aimed at improving SME financing, including intervention funds, credit support schemes, post-COVID-19 stimulus packages and financial inclusion programmes (Okoh et al., 2022). However, many SMEs continue to experience difficulty in obtaining affordable formal credit. The persistence of these challenges raises questions about the effectiveness of existing financial and monetary frameworks. Although banks remain the major source of external financing for SMEs, their lending decisions are influenced by macroeconomic conditions such as liquidity, interest rates, economic growth and exchange rate stability. Understanding SME financing therefore requires moving beyond enterprise-level constraints to examine the broader monetary and macroeconomic environment.

Previous studies have established relationships between entrepreneurship financing and economic outcomes. Aderemi et al. (2023) demonstrated the relevance of SME financing to employment creation, while Okoh (2020) emphasised the importance of strengthening SME financing mechanisms for economic development. Studies on financial intermediaries and private sector investment have also highlighted the importance of credit allocation in economic development (Manasseh et al., 2021; Ugwu et al., 2017). However, these studies do not sufficiently explain how monetary policy variables and macroeconomic stability jointly influence SME credit, and there remains limited empirical evidence on whether changes in monetary conditions translate into increased SME-directed bank lending over an extended period.

The problem is further complicated by Nigeria's experience of exchange rate volatility, inflationary pressures, changing monetary policy regimes and structural economic adjustments. These factors may influence banks' risk perceptions and lending behaviour towards SMEs. Consequently, there is a need for empirical evidence that captures the dynamic relationship between monetary policy, macroeconomic stability and SME financing. This study therefore examines the extent to which the exchange rate, real GDP, broad money supply and the monetary policy rate influence bank credit to SMEs in Nigeria between 1990 and 2025. By employing time-series econometric techniques, the study provides evidence on the long-run relationship between macroeconomic conditions and SME financing, which can support policy formulation aimed at improving sustainable SME financing and strengthening financial inclusion in Nigeria. It also contributes to the broader discourse on development finance and sustainable enterprise growth in emerging economies.

The rest of the paper is organized as follows. Section 2 reviews the conceptual, theoretical and empirical literature. Section 3 describes the methodology. Section 4 presents and discusses the results, and Section 5 concludes the paper and offers recommendations.

2.0 Literature Review

This section reviews the literature that relates monetary policy and macroeconomic conditions to the financing of small and medium enterprises (SMEs). It first clarifies the main concepts used in the study, namely SME financing, monetary policy and macroeconomic stability. It then discusses the theories that explain why changes in the stance of monetary policy and in the macroeconomic environment should affect the volume of bank credit that reaches SMEs. The empirical literature is reviewed at the international, Sub-Saharan African and Nigerian levels, after which the studies are summarized and the gap that this study fills is identified.

Conceptual Review

Small and Medium Enterprises and SME Financing

In Nigeria, enterprises are classified by the number of persons employed and the value of their assets. Under the classification adopted by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and the National Bureau of Statistics (NBS), small enterprises employ between 10 and 49 persons while medium enterprises employ between 50 and 199 persons (National Bureau of Statistics [NBS] & Small and Medium Enterprises Development Agency of Nigeria [SMEDAN], 2017). The national survey of micro, small and medium enterprises reported about 41.5 million enterprises in the country, of which the overwhelming majority were micro enterprises and only about 73,000 were small and medium enterprises (NBS & SMEDAN, 2017). The small number of formal SMEs, relative to the very large micro segment, is itself an indication of the difficulty that firms face in growing beyond the micro stage, and access to external finance is frequently identified as a central reason for this.

SME financing refers to the funds that small and medium enterprises obtain to establish, operate and expand their businesses. These funds may come from internal sources such as owners' savings and retained earnings, from informal sources such as family, friends and rotating savings groups, or from formal sources such as deposit money banks, microfinance banks, development finance institutions and, more recently, financial technology platforms (Berger & Udell, 2006; Mpofu & Sibindi, 2022). In this study, SME financing is measured as bank credit to small and medium scale enterprises, which is the formal channel through which monetary policy is expected to have its most direct effect. Beck and Demirguc-Kunt (2006) show that access to finance is a binding growth constraint for SMEs across countries, and Mpofu and Sibindi (2022) observe that in Africa information asymmetry, lack of collateral, low financial literacy and weak credit information systems push many small firms towards informal finance, which is costly and too small to fund expansion.

A growing body of Nigerian work shows that the financing problem of small enterprises is not only a matter of the supply of bank loans. Okoh, Afrogha, Udo, and Adeagbo (2026) examined the relationship between financial literacy and the economic sustainability of SMEs in South West Nigeria, while Okoh et al. (2025) studied the challenges that small enterprises in the same region face in adopting financial technology innovations. Okoh, Afrogha, Udo, and Adamu (2026) also assessed the barriers that restrict the access of SMEs in South West Nigeria to green finance. Taken together, these studies indicate that the demand side, including the skills and readiness of SME owners, shapes how far any easing of credit conditions actually reaches small businesses.

Monetary Policy and its Instruments

Monetary policy is the set of actions taken by the central bank to influence the cost, availability and direction of money and credit in order to achieve price stability and support sustainable growth. In Nigeria, the Central Bank of Nigeria (CBN) moved from direct controls, such as credit ceilings and sectoral allocation of credit, towards market-based instruments following the financial liberalisation of the late 1980s. The main instruments now include the monetary policy rate (MPR), which signals the stance of policy and anchors short-term interest rates, the cash reserve ratio, the liquidity ratio and open market operations, which together influence the supply of broad money (M2). The MPR and M2 are the two monetary policy variables used in this study. A higher MPR is expected to raise the cost of bank funds and lending rates, while growth in M2 increases the loanable funds available to banks.

The effectiveness of these instruments in reaching the real sector has long been debated in Nigeria. Afrogha et al. (2023) examined the influence of monetary policy on the performance of deposit money banks in Nigeria, the institutions through which monetary impulses must pass before they reach SMEs. Oyadeyi (2024) showed that the transmission of monetary policy in Nigeria is asymmetric and depends on the level of financial development, while Obiaje and Umeokwobi (2024) found that private sector credit responded to money supply and the maximum lending rate but not significantly to the MPR or the cash reserve ratio between 2008 and 2023.

Macroeconomic Stability

Macroeconomic stability describes an environment in which output grows steadily, inflation is low and predictable, the exchange rate does not fluctuate excessively and public finances are sustainable. Fischer (1993) argued that such an environment encourages investment and growth because it reduces uncertainty about future prices and returns. For lenders, stability lowers the risk of default and makes it easier to price long-term loans; for SMEs, it makes input costs, sales and debt service more predictable. In this study, macroeconomic stability is captured by the exchange rate (EXCH) and real gross domestic product (RGDP). The exchange rate is important in Nigeria because many SMEs depend on imported raw materials and equipment, so a depreciation raises their costs and the value of any foreign-currency-linked obligations, while RGDP reflects the level of economic activity that determines both the demand for SME output and the willingness of banks to lend.

Nigeria's macroeconomic environment over 1990 to 2025 has been marked by oil price cycles, periods of high inflation, several episodes of naira depreciation, the banking consolidation of 2004 to 2005, the recessions of 2016 and 2020 and the exchange rate unification of 2023. Afrogha and Afrogha (2022) examined the implications of economic diversification for Nigeria, an issue that is closely tied to the country's vulnerability to oil price shocks and the resulting exchange rate and output volatility. Udo et al. (2025) also studied financial globalisation, together with green finance and technological innovation, in the MINT economies, of which Nigeria is one, which draws attention to the exposure of the domestic financial system to external conditions.

Monetary Policy, Macroeconomic Stability and SME Credit

The link between the concepts can be stated simply. Monetary policy determines the cost and quantity of loanable funds available to banks, while macroeconomic conditions determine

how risky banks consider lending to be and how profitable borrowing is for firms. Because SMEs are more opaque, hold less collateral and depend more on bank credit than large firms, a tightening of monetary policy or a deterioration of macroeconomic conditions is expected to reduce their share of bank credit more than proportionately. Conversely, an easing of policy and a stable environment should expand the volume of credit that reaches them. The theories below explain these expectations.

Theoretical Review

Credit Channel Theory of Monetary Transmission

The credit channel theory, developed by Bernanke and Blinder (1988) and Bernanke and Gertler (1995), holds that monetary policy affects the economy not only through the general level of interest rates but also through its effect on the supply of bank loans and on the balance sheets of borrowers. Under the bank lending channel, a monetary contraction drains reserves and deposits from banks, which then reduce lending to borrowers who cannot easily replace bank loans with other sources of finance. Under the balance sheet channel, higher interest rates reduce the net worth and cash flows of borrowers and raise the external finance premium they must pay. Gertler and Gilchrist (1994) showed that small manufacturing firms in the United States contracted much more sharply than large firms after monetary tightening, and Kashyap and Stein (2000) found that the effect of monetary policy on lending was strongest for banks with less liquid balance sheets. The theory therefore predicts that SMEs, as bank-dependent borrowers, should be particularly sensitive to changes in the MPR and in the money supply.

Credit Rationing Theory

Stiglitz and Weiss (1981) demonstrated that, where lenders cannot fully observe the quality of borrowers, raising interest rates may attract riskier borrowers and encourage riskier projects. Banks therefore prefer to ration credit rather than raise lending rates to clear the market, so some borrowers are denied credit even when they are willing to pay the prevailing rate. SMEs are the classic victims of such rationing because they have limited audited financial information and little collateral. Ogunmokun et al. (2026) extend this argument to Sub-Saharan Africa, contending that the risk assessment strategies of banks, which apply models designed for large firms to small businesses, overstate SME risk and lead to the rejection of creditworthy borrowers. The theory implies that a rise in the policy rate or greater macroeconomic uncertainty may lead banks to ration SME credit further rather than merely to raise its price.

Financial Repression and Liberalisation Hypothesis

McKinnon (1973) and Shaw (1973) argued that interest rate ceilings, high reserve requirements and directed credit, which they described as financial repression, reduce savings mobilisation and lead to inefficient allocation of credit. They proposed that liberalising interest rates would raise savings, deepen the financial system and increase the credit available to productive enterprises. The hypothesis is relevant to Nigeria, where the 1987 liberalisation and later reforms were expected to improve credit to the private sector, including SMEs. The persistence of low SME credit after liberalisation, however, suggests that liberalisation alone does not remove the information and risk problems that the credit rationing theory describes.

Pecking Order Theory

Myers and Majluf (1984) argued that, because of information asymmetry between firms and outside investors, firms prefer internal funds first, then debt and equity only as a last resort. For SMEs that have no access to equity markets, bank credit is usually the only form of external finance available. Hansen-Addy et al. (2025) found that SMEs in Africa continued to prefer retained earnings even where the regulatory environment improved their access to external finance, largely because external finance remained unaffordable. The theory helps explain why the cost of bank credit, which is influenced by the MPR, matters so much for SME financing decisions.

Theoretical Framework of the Study

This study is anchored on the credit channel theory of monetary transmission, supported by the credit rationing theory. The credit channel theory provides the basis for including the MPR and M2 as determinants of bank credit to SMEs, since it explains how changes in the cost and supply of loanable funds pass through banks to bank-dependent firms. The credit rationing theory provides the basis for including the exchange rate and RGDP, since macroeconomic instability increases the perceived risk of lending and raises the likelihood that banks will ration credit to small borrowers. On this basis, the study expects the MPR to have a negative effect on SME credit, and M2 and RGDP to have positive effects, while exchange rate depreciation is expected to reduce SME credit by raising costs and lending risk.

Empirical Review

International Evidence

Evidence from outside Africa shows that monetary policy affects SME credit strongly but unevenly. Jiménez et al. (2012) used loan application data from Spain and found that monetary tightening reduced the granting of loans, especially by banks with weaker capital and liquidity. Finnegan and Kapoor (2023) examined the European Central Bank's unconventional monetary policy between 2014 and 2019 and found that, in stressed euro area countries, highly leveraged SMEs remained credit constrained even under expansionary policy, and that smaller and younger firms continued to face financing obstacles. Kapoor et al. (2025) studied the monetary tightening that began in July 2022 in the euro area and found that tightening increased the likelihood that SMEs would substitute away from bank credit, but that smaller, younger and riskier firms remained dependent on bank credit despite its higher cost.

Targeted monetary policy has also been studied. Zhou et al. (2026) examined China's targeted monetary policy between 2010 and 2022 using a staggered difference-in-differences approach and found that it increased SME loan sizes unevenly, favouring state-owned, high-technology and energy firms over ordinary SMEs, and that it raised rather than lowered the cost of SME loans. Crawford et al. (2024), in a systematic review of 89 studies on government finance, loans and guarantees for SMEs between 2000 and 2021, concluded that government schemes exist in many countries but that their purposes are often poorly defined and many SMEs are unaware of them. These studies caution that easing policy or creating special credit windows does not automatically channel funds to the smallest firms.

Evidence from Sub-Saharan Africa

Earlier work suggested that the transmission of monetary policy is weak in low-income countries because of shallow financial markets. Abuka et al. (2019) challenged this view using the Ugandan credit register. They found that monetary tightening increased loan rejection rates, reduced loan volumes and raised lending rates, with stronger effects for banks

with higher leverage and larger holdings of government securities, and that the effects extended to construction and trade activity. Their result supports the relevance of the bank lending channel in an African economy similar in structure to Nigeria.

Macroeconomic instability has been shown to weaken the financial system through which SME credit flows. Abaidoo and Agyapong (2023) studied 35 Sub-Saharan African economies from 1996 to 2019 and found that macroeconomic instability and exchange rate volatility reduced the efficiency of financial institutions, while strong institutional quality moderated these effects. Bandura and Leshoro (2022) found that inflation harms financial development in Sub-Saharan Africa once it rises above a threshold of about 5 percent. Hansen-Addy et al. (2025), using World Bank Enterprise Survey data for 30 African countries between 2003 and 2020, showed that an enabling regulatory business environment increased SMEs' access to external finance, although such finance remained unaffordable for most firms. At the firm level, Akande and Afrogha (2022) applied latent class analysis to World Bank Enterprise Survey data to examine the resilience of South African businesses to the COVID-19 shock, illustrating how a sudden macroeconomic disturbance affects firms differently. Mpofu and Sibindi (2022) and Ogunmokun et al. (2026) both concluded that the main obstacles to formal SME finance in the region lie in information gaps, collateral requirements and the risk assessment practices of banks.

Evidence from Nigeria

Nigerian studies on monetary policy and SMEs have produced mixed results. Isola and Mesagan (2019) used data from 1970 to 2015 and found that inflation reduced SME output that the exchange rate and interest rate had positive effects, and that credit to the private sector had a negative effect, which they interpreted as evidence that monetary policy had hindered rather than supported SME performance. Ilo et al. (2023) employed the autoregressive distributed lag (ARDL) model on data from 1981 to 2020 and concluded that monetary policy had not been a potent tool for promoting the performance of SMEs in Nigeria. Ayunku and Eweke (2020) used a non-linear ARDL model for 1992 to 2016 and found that the effects of interest rate, inflation and exchange rate shocks on SME performance were asymmetric, with negative shocks having larger effects than positive ones.

Studies that focus directly on SME financing point to the importance of specific instruments and of price stability. Onakoya et al. (2024) examined the period 2001 to 2022 and found that inflation had a negative effect on SME financing, that the interest rate had a positive and significant effect and that the exchange rate had no significant effect. Nwani and Adukwu (2026) used ARDL on data from 1999 to 2024 and found that the cash reserve ratio had a significant negative effect on bank credit to small-scale enterprises, while the MPR and the loan-to-deposit ratio were not significant. Olawale and Shiloh (2024) found that commercial bank credit to SMEs had a negative short-run but positive long-run effect on economic growth between 1981 and 2022, which shows why the volume of SME credit matters for the wider economy.

Studies of aggregate private sector credit provide further context. Nzeh et al. (2023) used monthly data from 2007 to 2021 and found that the exchange rate and the United States federal funds rate reduced credit to the private sector, while broad money supply increased it. Oyadeyi (2024) found that financial development strengthened the credit channel of monetary policy in Nigeria between 1986 and 2023 but that policy changes affected banks'

short-term funding costs more than the rates at which businesses borrow. Onoh et al. (2026) examined the relationship between digital financial inclusion and poverty reduction in Nigeria and the mediating role of microfinance development, which is relevant because microfinance institutions serve many of the small firms that deposit money banks do not reach.

Institutional and Firm-Level Constraints on SME Financing in Nigeria

The CBN has run a number of development finance interventions intended to improve credit to SMEs. Okon and Zephaniah (2022) studied 24 such interventions and found that utilisation of funds was higher in schemes that targeted larger enterprises and lower in schemes that involved several categories of participating financial institutions. They recommended that interventions be segmented by enterprise size so that larger firms do not crowd out smaller ones. Okoh et al. (2022) assessed the impact of the CBN's post-COVID-19 stimulus packages on the economic sustainability of SMEs in Nigeria. At the firm level, Okoh et al. (2025) examined the challenges that small enterprises face with financial technology innovations, while Okoh, Afrogha, Udo, and Adeagbo (2026) examined the influence of financial literacy on SME sustainability and Okoh, Afrogha, Udo, and Adamu (2026) examined the barriers to green finance, all in South West Nigeria. Okoh et al. (2024) assessed the effect of infrastructural facilities on the performance of SMEs in South Western Nigeria. Afrogha et al. (2026) also discussed green finance as a catalyst for small business sustainability, setting out the pathways, challenges and policy implications of directing such finance to small enterprises. These studies suggest that the effect of monetary policy on SME financing depends on institutional design and on the capacity of firms to use the credit that becomes available.

Summary of Empirical Studies

Table 1:

Summary of selected empirical studies

Author(s) and year	Scope and period	Method	Main findings
Abuka et al. (2019)	Uganda, loan-level credit register data	Loan-level regressions with policy surprises	Tightening raised loan rejections and rates and cut loan volumes
Finnegan & Kapoor (2023)	Stressed euro area countries, 2014–2019	Firm survey (SAFE) regressions	Leveraged, smaller and younger SMEs stayed credit constrained under easing
Kapoor et al. (2025)	Euro area, 2015–2023	Firm survey (SAFE) regressions	Tightening led SMEs to substitute away from bank credit; small, risky firms could not
Zhou et al. (2026)	China, 2010–2022	Staggered difference-in-differences	Targeted policy raised SME loans unevenly and raised loan costs
Abaidoo & Agyapong (2023)	35 SSA countries, 1996–2019	Pooled OLS with Driscoll-Kraay errors	Macroeconomic instability and exchange rate volatility reduced efficiency of financial institutions
Bandura & Leshoro (2022)	Sub-Saharan Africa	Dynamic panel threshold	Inflation above about 5% harmed financial development
Hansen-Addy et al. (2025)	30 African countries, 2003-2020	Propensity score matching	Enabling regulation raised SME access to finance, but finance remained unaffordable

Author(s) and year	Scope and period	Method	Main findings
Isola & Mesagan (2019)	Nigeria, 1970-2015	ARDL	Inflation reduced SME output; private sector credit had a negative effect
Ayunku & Eweke (2020)	Nigeria, 1992-2016	Non-linear ARDL	Asymmetric effects; negative macroeconomic shocks had larger impact on SMEs
Ilo et al. (2023)	Nigeria, 1981-2020	ARDL	Monetary policy was not a potent tool for SME performance
Nzeh et al. (2023)	Nigeria, 2007-2021 (monthly)	FMOLS and DOLS	Exchange rate reduced private credit; money supply raised it
Onakoya et al. (2024)	Nigeria, 2001-2022	OLS and ECM	Inflation reduced SME financing; exchange rate not significant
Oyadeyi (2024)	Nigeria, 1986-2023	Non-linear ARDL	Monetary transmission was asymmetric and depended on financial development
Obiaje & Umeokwobi (2024)	Nigeria, 2008-2023 (monthly)	ARDL	Private credit related to money supply and lending rate; MPR not significant
Olawale & Shiloh (2024)	Nigeria, 1981-2022	ARDL	SME credit had a positive long-run effect on growth
Okon & Zephaniah (2022)	24 CBN interventions	Regression	Utilisation higher in schemes for larger firms; mixed lender types lowered utilisation
Nwani & Adukwu (2026)	Nigeria, 1999-2024	ARDL	Cash reserve ratio reduced SME credit; MPR not significant

Source: Compiled by the author from the reviewed literature.

Gap in the Literature

The review shows that the empirical evidence on the relationship between monetary policy and SME financing in Nigeria is inconclusive. Some studies find that the MPR has no significant effect on SME credit (Nwani & Adukwu, 2026; Obiaje & Umeokwobi, 2024), others find that monetary policy has not supported SMEs (Ilo et al., 2023; Isola & Mesagan, 2019), and others find that macroeconomic shocks have asymmetric effects (Ayunku & Eweke, 2020). Several gaps remain. First, most Nigerian studies measure SME performance or output rather than the volume of bank credit to SMEs, even though credit is the direct channel through which monetary policy is transmitted. Second, few studies combine monetary policy instruments (MPR and M2) with indicators of macroeconomic stability (exchange rate and RGDP) in a single model of SME credit. Third, most existing studies end before 2023 and therefore do not capture the period of exchange rate unification, sharp naira depreciation and aggressive monetary tightening between 2022 and 2025. This study addresses these gaps by examining the effect of the MPR, broad money supply, the exchange rate and real GDP on bank credit to SMEs in Nigeria over the period 1990 to 2025.

3.0 Methodology

The research utilizes data generated from the Central Bank of Nigeria statistical bulletin on bank credit to Small and Medium Scale Enterprises, exchange rate, broad money supply (M2), monetary policy rate (MPR) and Real Gross Domestic Product (RGDP) from 1990-2025**.** The

bank credit to Small and Medium Scale Enterprises is the dependent variable, while, exchange rate, RGDP, M2 and MPR are the independent variables. The model for monetary policy and credit to Small and Medium Scale Enterprises in Nigeria could be stated as follows:

Model Specification

SMECRED =F(EXCH, RGDP, M2, MPR)

where

SMECRED = Bank credit to Small and Medium Scale Enterprises
EXCH = Exchange rate
RGDP = Real Gross Domestic Product
M2 = Broad money supply
MPR = Monetary policy rate

Assuming a linear relationship between the dependent variable and independent variables, and using the multiple regression model can be specified as follows:

$$SMECRED = \alpha_0 + \alpha_1 EXCH + \alpha_2 RGDP + \alpha_3 M_2 + \alpha_4 MPR + \mu_t$$

where

μ_t = Error term

α_0 = the constant term

’s = the parameters to be estimated

Estimation procedure

Descriptive statistics are used to summarise the basic features of the data, while inferential statistics are used to draw conclusions that extend beyond the sample.

The study utilizes the Ordinary Least Square (OLS) method of estimation while conducting the econometrics test. The OLS method has been used in a wide range of economic relationships with satisfactory result. The method employs sound statistical techniques appropriate for empirical problems; and it has become so standard that its estimates techniques are used. More so, the reliability of this method lies on its desirability properties which are efficiency, consistency, and unbiased. This implies that its error term has a minimum and equal variance. The conditional mean value is zero and normally distributed (Gujarati, 2004).

Unit root test

To test for stationarity or the absence of unit roots, this test is done using the Augmented Dickey Fuller test (ADF) with the hypothesis which states as follows: If the absolute value of the Augmented Dickey Fuller (ADF) test is greater than the critical value either at the 1% , 5% ,or 10% level of significance , then the variables are stationary either at order zero, one ,or two. The Augumented Dicky Fuller test equation is specicied below as follows:

$$\Delta \hat{u}_t = \beta \hat{u}_{t-1} + \sum_{i=1}^{k} \Delta \hat{u}_{t-1} + \varepsilon_t \ldots\ldots\ldots\

to estimate whether two or more variables are cointegrated, via a multivariate maximum likelihood procedure that overcomes many of the limitations of the bivariate tests of Engle and Granger (1987). These limitations require that one of the two variables is considered exogenous, while these tests do not have well-defined limiting distributions and, therefore, their critical values are sensitive to sample size.

The Johansen maximum likelihood procedure begins by expressing a process of NI(1) variables in an Nx1 vector x as an unrestricted autoregression:

$$X_t = \lambda_1 + X_{t-1} + \lambda_2 X_{t-2} + ... + \lambda_k X_{t-k} + \mu_t \quad \text{……..……}$$

with t = 1, 2, …, T and μ_t being the random error term. The long-run static equilibrium is given by $\prod_x = 0$, where the long run coefficient matrix Π is defined as:

$$\prod = 1 - \prod_1 - \prod_2 - ..... - \prod_k \quad \text{……}$$

where I is the identity matrix and Π is an nxn matrix whose rank determines the number of distinct cointegrating vectors which exist between the variables in x. Define two nxr matrices α and β, such that:

$$\prod = \alpha\beta' \quad \text{…….….}$$

with the rows of β′ to form the r distinct cointegrating vectors. The likelihood ratio statistic (LR) or trace test for the hypothesis that there are at most r cointegrating vectors is:

$$\text{LR or TRACE} = -T\sum_{i=r+1}^{n} \ln(1-\lambda i) \quad \text{…….}$$

where λr + 1, …, λn are n-r the smallest squared canonical correlations between the residuals of xt–k and Δxt series, corrected for the effect of the lagged differences of the x process. Additionally, the likelihood ratio statistic for testing at most r cointegrating vectors against the alternative of r + 1 cointegrating vectors, namely, the maximum eigenvalue statistic, is given as:

$$\lambda MAX = T\ln(1 - \lambda r + 1) \quad \text{……..}$$

Both statistics have non-standard distributions under the null hypothesis, although approximate critical values have been generated by Monte Carlo methods and tabulated by Johansen and Juselius (1990). If exchange rates are found to be cointegrated with budget deficits, among other macroeconomic variables, the next step is to examine the associated causality tests, since if two or more variables are cointegrated causality in at least one direction must be implied (Hall & Milne, 1994). There will be a normality test, which helps to determine if the error term of the variables under consideration are normally distributed. This could be done using the hypothesis, which states that if the Chi-Square calculated is less than the Chi- Square tabulated, then it shows that the variables are normally distributed.

Also, the multicolinearity tests would be conducted in order to ascertain whether the variables under consideration are serially correlated; also other tests that could be relevant to ascertain the significance level of the variables would be conducted. The hetroscedasticity test would be conducted with the following decision rule: if the chi-square calculated is less than the chi-square we accept Ho order wise we reject. The hypothesis is as follows:

H_0: $\alpha_1 = \alpha_2 = \alpha_3 = \alpha_4$

H_1: $\alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4$

The equation that guides the test is stated as follows:

$$U_t = \beta_0 + \beta_1 \text{EXCH} + \beta_2 \text{RGDP} + \beta_3 \text{M2} + \beta_4 \text{MPR} + \beta_5 \text{EXCH}^2 + \beta_6 \text{RGDP}^2 + \beta_7 \text{M2}^2 + \beta_8 MPR^2 + \beta_9 (\text{EXCH}, \text{RGDP}, \text{M}_2, \text{MPR}) + V_t$$

Econometrics software
The E-View econometrics packages were utilized in analyzing the data while excel will be used in imputing the data.

4.0 Result and Discussion
The results of the descriptive statistics conducted on the monetary policy and bank credit to SMEs which include, SMECRED, EXCH, RGDP, M2 and MPR are shown in the table below:

Table 2:
Descriptive statistics

	SMECRED	EXCH	RGDP	M2	MPR
Mean	7546382.	69.04675	3377155.	3503.514	5.921291
Median	256838.8	22.25850	306456.3	450.7130	6.573750
Maximum	35167204	158.5526	24700000	17680.52	11.06417
Minimum	41810.00	0.544500	183563.0	14.47117	0.316667
Std. Dev.	13220979	65.28807	6552440.	5471.220	3.065399
Skewness	1.338790	0.200306	1.877009	1.466344	-0.088774
Kurtosis	2.842816	1.211632	5.200789	3.657632	2.047902
Jarque-Bera	10.79120	5.038125	28.40418	13.54971	1.407021
Probability	0.004536	0.080535	0.000001	0.001142	0.494845
Sum	2.72E+08	2485.683	1.22E+08	126126.5	213.1665
Sum Sq. Dev.	6.12E+15	149188.6	1.50E+15	1.05E+09	328.8835
Observations	36	36	36	36	36

Source: Author's computation, 2026.

From the result above, the probabilities of Jarque-Bera test for normality for all the variables indicates values above 5% significant level. The result also indicates that all the variables have a positive mean values which ranges from 69.04675 to 7546382 with 36 observations. The highest standard deviation of 13220979 is recorded by SMECRED while the least standard deviation of 3.065399 is recorded by MPR.

The skewness statistics from the table revealed that one the variables under consideration is negatively skewed while the other variables are skewed positively. The kurtosis coefficients showed that two of the variables are leptokurtic, suggesting that the distributions are high relative to normal distribution two variables are mesokutic, suggesting values not so peaked and not flat topped while the one variable is platikurtic indicating a flat peaked.

Correlation
The correlation matrix was used to establish the degree of relationship between the dependent variable and the independent variables, and the result is presented in Table 3.

Table 3:
Correlation matrix

	SMECRED	EXCH	RGDP	M2	MPR
SMECRED	1.000000	0.721373	0.916828	0.950352	0.404158
EXCH	0.721373	1.000000	0.638161	0.780327	0.690615
RGDP	0.916828	0.638161	1.000000	0.854912	0.339188
M2	0.950352	0.780327	0.854912	1.000000	0.523278
MPR	0.404158	0.690615	0.339188	0.523278	1.000000

Source: Author's computation, 2026.

The correlation result shows that all the variables, EXCH, RGDP, M2 and MPR have positive signs, thus indicating a positive relationship with the SMECRED during the period under review.

The Regression

The result is interpreted based on the various expectations of the economic theory. These are the apriori expectations of the behaviour of the coefficients of the regressor variables on the dependent variables. Therefore, for the variables under consideration and their exhibition of the apriori signs which actually meets with the expectation of the economic theory are presented in the table below:

Table 4.

Regression result

Dependent Variable: SMECRED				
Method: Least Squares				
Included observations: 36				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1274066.	1221122.	1.043357	0.3049
EXCH	8159.464	15664.98	0.520873	0.6062
RGDP	0.717400	0.164595	4.358568	0.0001
M2	1601.011	238.7534	6.705708	0.0000
MPR	-392313.6	251514.5	-1.559805	0.1290
R-squared	0.947932	Mean dependent var		7546382.
Adjusted R-squared	0.941214	S.D. dependent var		13220979
S.E. of regression	3205549.	Akaike info criterion		32.92691
Sum squared resid	3.19E+14	Schwarz criterion		33.14684
Log likelihood	-587.6844	Hannan-Quinn criter.		33.00367
F-statistic	141.0937	Durbin-Watson stat		1.648019
Prob(F-statistic)	0.000000			

Source: Author's computation, 2026.

The variables under consideration indicates that coefficients of RGDP (0.777395), M2 (1544.218) and EXCH (8159.464) indicates positive signs which indicates their positive relationship to the bank credit to SMEs in Nigeria during the period under review. Also the coefficient of the variables, MPR indicates a negative signs which implies that the variable's relationship with the bank credit to SMEs in the economy during period under review is negative.

Statistical Criterion

Statistically, the t-statistic of the variables under consideration is interpreted based on the following decision rule: If the t-values of the variables under consideration is less than two or greater than the positive two ($\leq -2 \geq 2$), then it shows that the variables under consideration are significant, otherwise they are not. From the regression results, the t-values of the variables under-consideration are as follows: The t-statistic considerations indicates that two of the variables are significant at 5% significance level.

Table 5:

The t-statistics

Variable	t-Statistic	Prob.
C	1.043357	0.3049
EXCH	0.520873	0.6062
RGDP	4.358568	0.0001

M2	6.705708	0.0000
MPR	-1.559805	0.1290

Source: Author's computation, 2026.

From the result table above, two of the variables which includes, RGDP and M2 show values that are greater than positive and negative two. This shows that the variables are statistically significant at 5% significance level.

The F-statistic is interpreted following these decisions: if F-cal is greater that the F tabulated = if F-cal > F-tab reject otherwise accept. The F – Statistics is interpreted with the hypothesis stated as follows:

$H_O: \beta_1 = \beta_2 = \beta_3$

$H_1: \beta_1 \neq \beta_2 \neq \beta_3$

$V_1 = K–1$

$V_2 = N-K$

Where K = number of parameters

N= number of observation

For the variable under consideration: K = 4, K – 1 =4 – 1 = 3

N = 36, N –K= 36 - 4 =34

The F-cal (3 , 34) = 141.0937 while the F- tabulated (3 , 34) 4.51.

Decision: Since the F-calculated is greater that the F- tabulated, it shows that the overall estimate of the regression has a good fit and is statistically significant. The R^2 - (R-squared adjusted) which measures the overall goodness of fit of the entire regression shows the value as follows: 0.941214= 94%. It shows that the independent variables explain the dependent variable to the tune of 93 %. Also the Durbin Watson (DW) statistics DW = 1.648019, which is greater than the R^2 shows that the overall regression is statistically significance.

Unit Root Test

In literature, most time series variables are non-stationary and using non-stationary variables in the model might lead to spurious regression (Granger, 1969). The first or second differenced terms of most variables will usually be stationary (Ramanathan, 1992).Using the Augmented Dickey Fuller (ADF) test for the unit root for the levels as follows:

Table 6:

Augmented Dickey Fuller ADF test						
Variable	Level difference	probability	Order of integration	First difference	probability	Order of integration
SMECRED	-0.056838	0.9465	I(0)	-4.241564	0.0021	I(1)
EXCH	-0.240906	0.9237	I(0)	-4.887995	0.0004	I(1)
RGDP	-0.453803	0.8885	I(0)	-7.079209	0.0000	I(1)
M2	-6.203616	0.0000	I(0)	-3.863903	0.0072	I(1)
MPR	-1.600512	0.4717	I(0)	-5.647697	0.0000	I(1)

Source: Author's computation, 2026.

The stationarity test result indicates that one of the variables M2 is integrated of order zero while are three variables not intergrated at level. Therefore, the variables are differenced, hence all the variables under consideration are stationary and integrated of order one at 5% level of significance. A cointegration test is therefore, conducted.

Cointegration

When a linear combination of variables that are I (1) produces a stationary series, then the variables may need to be co-integrated. This means that a long-run relationship may exist among them, which connotes that they may wander from one another in the short-run but in the long-run they will move together. To establish whether long-run relationship exists among the variables or not, co-integration tests are conducted by using the multivariate procedure developed by Johansen (1988) and Johansen and Juselius (1990). The nature of the estimator means that the estimates are robust to simultaneity bias, and it is robust to departure from normality (Johansen, 1995). Johansen method detects a number of co-integrating vectors in non-stationary time series. It allows for hypothesis testing regarding the elements of co-integrating vectors and loading matrix. It offers two tests, the trace test and the Eigen value test. The results of the conducted Johansen tests for co-integration amongst the variables is specifies in table below:

Table 7:
Cointegration test (Trace)

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.753877	93.66913	69.81889	0.0002
At most 1	0.562928	46.00378	47.85613	0.0739
At most 2	0.259420	17.86343	29.79707	0.5762
At most 3	0.201379	7.652490	15.49471	0.5033
At most 4	0.000204	0.006939	3.841466	0.9330
Trace test indicates 1 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon et al. (1999) p-values				

Source: Author's computation, 2026.

Table 8:
Cointegration test (Maximum Eigenvalue)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.753877	47.66536	33.87687	0.0006
At most 1 *	0.562928	28.14035	27.58434	0.0424
At most 2	0.259420	10.21094	21.13162	0.7246
At most 3	0.201379	7.645551	14.26460	0.4159
At most 4	0.000204	0.006939	3.841466	0.9330
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon et al. (1999) p-values				

Source: Author's computation, 2026.

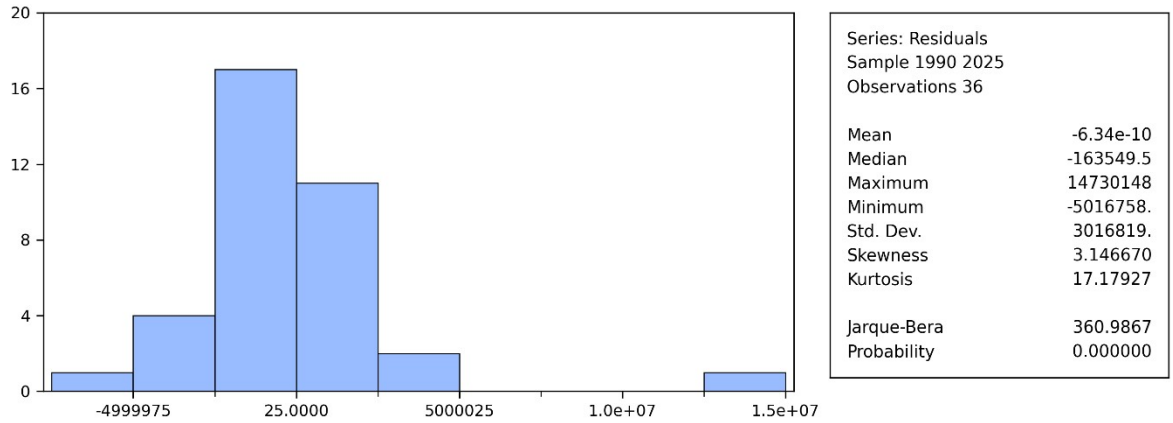
The Johansen hypothesized cointegration was carried out to determine the number of stationary long-run relationship among the variables included in the study. The trace test and the Eigen value test indicates 1 and 2 cointegrating equations respectively. Thus the results point out that the null hypothesis of no cointegration among the variables is rejected in favour

of the alternative hypothesis up to two cointegrating equations at 5% significant level because their values exceed the critical values. This means there are at most two cointegrating equations, which implies that a unique long-run relationship exists among the variables and the coefficients of estimated regression can be taken as equilibrium values. It can thus be stated that there exists a long run relationship between banking sector credit to SMEs and monetary policy variables in the Nigerian economy during the period under review.

Normality Test

This is a test to indicate the normality of the error terms are normally distributed. It goes with the following decision rule: if the Jague Bera test is less that the X^2 (chi square) tabulated, then the error term is normally distributed otherwise it is not. The graph below shows the normality result obtained:

Figure 4.1: Normality test result



Source: Author's computation, 2026 (EViews output)

For the variable under consideration, the *chiy (2)* =- X^2 chi-square calculated = 360.9867 is greater than the tabulated X^2 chi square (5.99441).we therefore conclude that that the error term of the variables are not normally distributed.

Hetroscedasticity Test

Under the heteroscedasticity test, we make the following assumptions: if the chi-square calculated is less than the chi-square tabulated, we accept Ho otherwise we reject. The Heteroscedasticity result obtained is presented below:

Table 9:

Heteroscedasticity test result

Heteroskedasticity Test: White			
F-statistic	15.56572	Prob. F(14,21)	0.0000
Obs*R-squared	32.83576	Prob. Chi-Square(14)	0.0030
Scaled explained SS	196.9674	Prob. Chi-Square(14)	0.0000

Source: Author's computation, 2026.

For the variables under consideration, chi –square under 14 degrees of freedom chi square (14) = calculated = 32.83576, the chi-square (14) tabulated = 21.1.

DECISION: Since the X^2 calculated> X^2 tabulated, we conclude that the error term of the variables under consideration are hetroscedastic.

Discussion of Results

The regression model explains a large share of the variation in bank credit to SMEs in Nigeria. The adjusted R-squared of 0.941 shows that the exchange rate, real GDP, broad money supply and the monetary policy rate together account for about 94 percent of the changes in SME credit over the study period, and the F-statistic of 141.09 ($p < 0.01$) confirms that the variables are jointly significant. Of the four explanatory variables, however, only real GDP and broad money supply are individually significant at the 5 percent level, while the monetary policy rate and the exchange rate are not. The discussion below considers each result in turn and relates it to the theories and studies reviewed in Section 2.

Real GDP has a positive and significant effect on SME credit (coefficient = 0.7174; t = 4.36; p = 0.0001). As the economy grows, the sales and cash flows of SMEs improve, their capacity to repay loans rises, and banks consider lending to them less risky. Growth also raises the demand for the goods and services that SMEs supply and therefore their demand for working capital. The result is consistent with the view of Fischer (1993) that a stable and growing macroeconomic environment encourages investment and lending, and with Abaidoo and Agyapong (2023), who found that macroeconomic instability reduces the efficiency of financial institutions in Sub-Saharan Africa. It also complements the evidence that SME financing supports industrial output and economic growth in Nigeria (Aderemi et al., 2022; Olawale & Shiloh, 2024), which suggests that the relationship between growth and SME credit runs in both directions.

Broad money supply has the strongest effect in the model (coefficient = 1601.01; t = 6.71; p < 0.01). An increase in money supply raises the deposits and reserves of banks and therefore the loanable funds available to them, which is the mechanism described by the credit channel theory (Bernanke & Blinder, 1988; Bernanke & Gertler, 1995; Kashyap & Stein, 2000). The finding agrees with Nzeh et al. (2023), who found that broad money supply increased credit to the private sector in Nigeria, with Obiaje and Umeokwobi (2024), who found that private sector credit responded to money supply, and with Abuka et al. (2019), who showed that the bank lending channel operates in a developing African economy. Liquidity expansion must nevertheless be managed carefully. Okoye et al. (2019) identified money supply among the determinants of inflation in Nigeria, although Samuel et al. (2019) found that causality runs from inflation to money supply, so the benefits of higher liquidity for SME credit must be weighed against the risk of price instability.

The monetary policy rate has the expected negative sign but is not statistically significant (coefficient = -392,313.6; t = -1.56; p = 0.129). The sign indicates that a higher policy rate tends to raise the cost of bank funds and discourage lending to SMEs, but the weak effect shows that changes in the policy rate have not translated reliably into changes in SME credit. This finding is similar to those of Nwani and Adukwu (2026) and Obiaje and Umeokwobi (2024), who also found the MPR to be insignificant in explaining bank credit in Nigeria, and it supports the conclusion of Ilo et al. (2023) that monetary policy has not been a potent tool for promoting SMEs. Oyadeyi (2024) offers an explanation, showing that changes in the policy rate affect the short-term funding costs of banks more than the rates at which businesses borrow. The result is also consistent with the credit rationing theory (Stiglitz & Weiss, 1981): because SMEs are opaque and hold little collateral, banks ration credit to them rather than adjust its price in line with the policy rate. Ogunmokun et al. (2026) similarly

argue that the risk assessment practices of banks, rather than the cost of funds alone, restrict SME access to debt finance. Evidence from Europe also shows that smaller, younger and riskier firms remain dependent on bank credit whatever its cost (Finnegan & Kapoor, 2023; Kapoor et al., 2025), which helps to explain why the volume of SME credit is not very sensitive to the policy rate.

The exchange rate has a positive but statistically insignificant coefficient (coefficient = 8159.46; t = 0.52; p = 0.606). The positive sign may partly reflect the fact that, as the naira depreciates, the nominal value of loans needed to finance imported inputs rises. The insignificance of the variable agrees with Onakoya et al. (2024), who found no significant effect of the exchange rate on SME financing, but differs from Nzeh et al. (2023), who reported that the exchange rate reduced private sector credit. Abaidoo and Agyapong (2023) also found that exchange rate volatility weakens the efficiency of financial institutions. Taken together, these results suggest that the exchange rate affects SMEs mainly through their operating costs and risk rather than through the volume of credit that banks extend to them, a view that is consistent with the concerns raised about exchange rate fluctuations in Nigeria (Okoh et al., 2021; Okoye et al., 2019).

The Johansen cointegration results confirm a long-run relationship between SME credit and the explanatory variables, which means that the effects of growth, liquidity and monetary conditions on SME credit persist over time rather than being short-lived. Ayunku and Eweke (2020) found that macroeconomic shocks affect SMEs asymmetrically, with adverse shocks having larger effects than favourable ones, so periods of instability may undo gains in SME financing more quickly than periods of stability create them. The diagnostic tests show that the residuals are not normally distributed and are heteroscedastic, so the significance levels reported above should be interpreted with caution.

Finally, the results indicate that macroeconomic conditions explain only part of the SME financing problem. Utilisation of CBN intervention funds has been higher in schemes that serve larger firms (Okon & Zephaniah, 2022), and the CBN post-COVID-19 stimulus packages were positively related to the economic sustainability of SMEs (Okoh et al., 2022). At the firm level, financial literacy (Okoh, Afrogha, Udo, and Adeagbo, 2026), the regulatory, infrastructural and knowledge barriers to the adoption of financial technology (Okoh et al., 2025) and the state of infrastructural facilities (Okoh et al., 2024) shape the ability of SMEs to obtain and use credit. Sustainable SME financing therefore requires a combination of sound macroeconomic management, effective credit interventions and improvements in the capacity of SMEs themselves.

5.0 CONCLUSION AND RECOMMENDATIONS

This study examined the role of monetary policy and macroeconomic stability in bank credit to SMEs in Nigeria over the period 1990 to 2025, using the exchange rate, real GDP, broad money supply and the monetary policy rate as explanatory variables. The results show that real GDP and broad money supply have positive and significant effects on bank credit to SMEs, while the monetary policy rate has a negative but insignificant effect and the exchange rate has no significant effect. The cointegration test confirms a long-run relationship between SME credit and the explanatory variables. The study concludes that the growth of the economy and the liquidity of the banking system, rather than the policy rate alone, drive the

volume of bank credit available to SMEs in Nigeria, and that the transmission of the policy rate to SME lending remains weak.

The study contributes to the literature by combining monetary policy instruments and indicators of macroeconomic stability in a single model of SME credit over an extended period that includes the recent years of exchange rate reform and monetary tightening. It shows that, in Nigeria, the quantity of liquidity in the banking system matters more for SME credit than its price. The study has some limitations. It relies on 36 annual observations, and the residuals of the estimated model are not normally distributed and are heteroscedastic. Future studies could apply autoregressive distributed lag or non-linear models, include other variables such as inflation, the lending rate and the cash reserve ratio, and use firm-level data to examine how monetary conditions affect different categories of SMEs.

Based on these findings, the following recommendations are made:

1. Monetary and fiscal authorities should coordinate their policies to sustain economic growth and macroeconomic stability. Since real GDP has a significant positive effect on SME credit, policies that support growth in the real sector and keep inflation low will improve the confidence of banks in lending to SMEs.
2. The Central Bank of Nigeria should use its liquidity instruments, such as the cash reserve ratio and open market operations, in ways that expand the loanable funds of banks while tying part of any released liquidity to SME lending. This builds on the significant effect of money supply, but the authorities should monitor inflation closely so that liquidity expansion does not undermine price stability.
3. Because the policy rate has little effect on SME credit, the monetary authorities should strengthen its transmission by deepening the money market and narrowing the gap between the policy rate and the lending rates charged to small businesses. Rate reductions alone should not be expected to increase SME credit.
4. Government agencies should expand partial credit guarantee and risk-sharing schemes so that banks can lend to SMEs without full collateral, as recommended by Nwani and Adukwu (2026). Such schemes should have clearly defined purposes and should be publicised to SMEs (Crawford et al., 2024).
5. CBN intervention funds should be segmented by enterprise size so that larger firms do not crowd out smaller ones, and participating institutions should be limited to categories that specialise in SME lending (Okon & Zephaniah, 2022).
6. Exchange rate management should take into account the vulnerability of SMEs that depend on imported inputs, for example by improving their access to foreign exchange and to hedging instruments.
7. Financial institutions should expand digital credit assessment and credit reporting mechanisms to reduce information asymmetry, and should develop assessment models suited to small businesses rather than applying those designed for large firms (Ogunmokun et al., 2026).

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