MONEY SUPPLY GROWTH, CREDIT EXPANSION, AND OUTPUT PERFORMANCE IN THE NON-OIL SECTOR OF AKWA IBOM STATE

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Abstract

This study examined the impact of money supply growth and credit expansion on the output performance of the non-oil sector in Akwa Ibom State. The study adopted an ex-post facto research design, combining descriptive and econometric approaches. Data covering the period 2015–2024 were collected from primary sources, including 300 non-oil sector operators, and secondary sources, including the Central Bank of Nigeria, National Bureau of Statistics, and Akwa Ibom State economic reports. Three replicates were used to ensure data reliability. Descriptive analysis revealed steady growth in broad money supply (M2), increasing from ₦18,217 billion in 2015 to ₦45,617 billion in 2024, and domestic credit to the private sector rising from ₦16,500 billion to ₦37,900 billion over the same period. Non-oil sector output increased from ₦980 billion to ₦1,915 billion, reflecting positive sectoral performance. Regression results showed that money supply ($\beta = 0.021$, $p = 0.041$) and credit expansion ($\beta = 0.036$, $p = 0.009$) had statistically significant positive effects on non-oil sector output, with the model explaining 87.2% of the variation ($R^2 = 0.872$). Granger causality tests indicated that money supply and credit expansion caused changes in non-oil output, while credit access constraints, particularly high interest rates and collateral requirements, limited the sector's full potential. The study concluded that increased liquidity and credit accessibility supported sectoral growth. It recommended the expansion of affordable credit schemes, reduction of bureaucratic lending barriers, and targeted support for SMEs and agricultural producers to maximize non-oil sector performance in Akwa Ibom State.

Keywords: Money Supply, Credit expansion, Non-Oil sector, Output performance, Econometric approaches

Introduction

Economic growth in developing economies is significantly shaped by monetary factors, particularly the growth in money supply and the allocation of credit to productive sectors. In Nigeria, monetary expansion and credit distribution remain central to policy debates as the country seeks to diversify its economy away from oil dependence (CBN, 2023). Akwa Ibom State, though recognized for its contribution to Nigeria's oil revenue, also possesses a vibrant and expanding non-oil sector comprising agriculture, manufacturing, commerce, transportation, ICT, and services. The performance of this non-oil sector is closely linked to the availability of finance, especially through money supply growth and bank credit allocation (Nnanna, 2021). Understanding how monetary aggregates influence sectoral output in Akwa Ibom State is therefore essential for sustainable economic development.

Money Supply Growth and Economic Performance

Money supply refers to the total stock of money circulating in an economy, including currency in circulation and demand deposits. According to Friedman (1968), changes in the money supply strongly influence economic activity in the short run and prices in the long run. In Nigeria, the Central Bank adopts monetary targeting, where money supply growth is used to regulate inflation and stimulate output (CBN, 2022). Empirical studies show mixed results: some scholars argue that increased money supply enhances productive activities and expands output (Okoye & Eze, 2013), while others observe that excessive money supply triggers inflationary pressures that hinder real sector growth (Agu & Okoli, 2019).

In Akwa Ibom State, the link between money supply and output performance in the non-oil sector remains under-researched. Although national-level data indicate that monetary expansion can stimulate agricultural and industrial output (Udo & Essien, 2020), whether this relationship holds at the sub-national level is yet to be thoroughly examined. A contextualised assessment is necessary because state-level economic dynamics often differ from national averages.

Credit Expansion and Access to Finance in the Non-Oil Sector

Credit expansion refers to the increase in lending by financial institutions to households, firms, and industries. The availability of credit is crucial for investment, business expansion, and productivity growth (McKinnon, 1973; Shaw, 1973). In Nigeria, despite several monetary policy interventions such as the Anchor Borrowers' Programme, Agricultural Credit Guarantee Scheme, and Small and Medium Enterprise Credit, access to credit in the non-oil sector remains limited (Adeniran & Olayemi, 2020).

In Akwa Ibom State, small and medium enterprises (SMEs), agricultural producers, and service-based firms often struggle to access credit due to high interest rates, collateral requirements, and perceived financial risks (Ekpenyong & Acha, 2021). These constraints hinder investment and reduce the sector's contribution to gross state product (GSP). A study by Udoh (2022) indicates that credit availability is a significant predictor of firm performance in South-South Nigeria, suggesting that increased credit expansion could stimulate non-oil sector output in Akwa Ibom State.

Output Performance in the Non-Oil Sector of Akwa Ibom State

Output performance refers to the level of goods and services produced within a sector over a given period. In Akwa Ibom State, the non-oil sector accounts for a substantial share of employment and livelihood opportunities. Agriculture remains the largest employer, while manufacturing, construction, ICT, hospitality, and transport have shown renewed growth due to diversification policies (Akwa Ibom State Ministry of Economic Development, 2023). However, insufficient financing continues to limit productivity, competitiveness, and value addition.

Research has shown that when adequately funded, the non-oil sector can significantly boost economic stability and reduce dependence on the volatile global oil market (Iyoha & Oriakhi, 2017). A critical pathway to achieving this is through sufficient money supply and accessible credit facilities that stimulate investment and production at the state level.

Inter-linkages between Money Supply, Credit Expansion, and Sectoral Output

The interaction between money supply, credit, and output has long been recognized in monetary economics. According to Keynesian theory, an increase in money supply lowers interest rates, expands credit, and stimulates investment and output (Keynes, 1936). Similarly, the monetarist school argues that money supply influences output in the short run through investment and consumption channels (Friedman, 1968).

For Akwa Ibom State, the empirical question is how monetary dynamics influence real-sector activities beyond the national aggregates. Does growth in money supply translate into increased lending to the non-oil sector? Does this lending significantly enhance output performance in agriculture, manufacturing, and services? Existing studies at the national level show positive but inconsistent relationships (Ogar & Okoro, 2020), thereby creating a research gap at the sub-national level.

Statement of the Problem / Justification

The non-oil sector has increasingly been recognized as a major driver of sustainable economic development in Nigeria, particularly in states like Akwa Ibom that seek to diversify their economic

base beyond crude oil extraction. Despite this recognition, output performance in the non-oil sector of Akwa Ibom State remains suboptimal and inconsistent, largely due to inadequate financing and weak credit penetration. Empirical evidence shows that the growth of money supply and the expansion of domestic credit are critical determinants of productive capacity, investment levels, and sectoral output (Friedman, 1968; McKinnon, 1973). However, the extent to which these monetary variables influence the real output of the non-oil economy at the state level remains unclear.

At the national level, studies have shown mixed findings. While Okoye and Eze (2013) found that monetary expansion significantly stimulates real output in Nigeria, other scholars argue that excessive growth in money supply may generate inflationary pressures that crowd out real-sector productivity (Agu & Okoli, 2019). These conflicting outcomes suggest the need for context-specific analyses, especially in states with unique economic structures such as Akwa Ibom. The Central Bank of Nigeria (CBN) reports persistent increases in broad money supply over the past decade (CBN, 2023), yet the trickle-down effect on lending to productive sectors remains limited, particularly for agriculture, manufacturing, and SMEs, which constitute the backbone of the non-oil sector.

Compounding this issue is the low level of credit expansion to non-oil sectors within Akwa Ibom State. Studies show that credit to SMEs and agricultural enterprises in South-South Nigeria are constrained by high lending rates, collateral requirements, and risk-averse bank policies (Ekpenyong & Acha, 2021) and Umoh, Ekpo, Effiong, and Asangausung, (2023). Although various intervention schemes such as the Agricultural Credit Guarantee Scheme and SME financing programmes exist, their impact in Akwa Ibom has been minimal due to implementation bottlenecks and limited accessibility (Adeniran & Olayemi, 2020). This credit constraint significantly hampers capital formation, limits business expansion, and undermines sectoral productivity (Udoh, 2022).

Furthermore, there is a paucity of empirical research examining the specific interactions among money supply growth, credit expansion, and output performance at the state level. Most existing studies focus on national aggregates, thereby overlooking state-level economic realities, which may differ due to structural factors, institutional arrangements, and sectoral composition (Nnanna, 2021). For Akwa Ibom State—where agriculture, trade, services, and manufacturing are emerging pillars of economic diversification—understanding the monetary determinants of output performance is vital.

The absence of empirical evidence on how monetary aggregates influence non-oil sector productivity in Akwa Ibom State creates a critical knowledge gap that hinders evidence-based policymaking. It is therefore necessary to investigate the extent to which money supply growth and credit expansion affect output performance in the state's non-oil sector. Findings from this study will not only provide guidance for the Central Bank of Nigeria, financial institutions, and state policymakers but will also support strategic efforts aimed at strengthening non-oil sector growth, enhancing employment, and promoting economic resilience in Akwa Ibom State.

Objectives of the Study

The aim of this study is to examine the effects of money supply growth and credit expansion on output performance in the non-oil sector of Akwa Ibom State.

Its specific objectives include:

i. to assess the trend of money supply growth in Akwa Ibom State over the study period.,

ii. to examine the pattern and magnitude of credit expansion to the non-oil sector in Akwa Ibom State.,

iii. to evaluate the relationship between money supply growth and non-oil sector output performance.

iv. to determine the impact of credit expansion on output performance in the non-oil sector.,

v. to investigate the combined effect of money supply growth and credit expansion on non-oil sector productivity.

vi. to identify the major constraints affecting access to credit by non-oil sector operators in Akwa Ibom State.,

vii. to analyze how changes in monetary policy instruments influence credit availability and sectorial output.,

viii. to provide policy recommendations for improving monetary and credit conditions to enhance non-oil sector performance in Akwa Ibom State.

Scope of the Study

This study focuses on examining the relationship between money supply growth, credit expansion, and output performance within the non-oil sector of Akwa Ibom State. The scope is delimited to the major components of the non-oil sector, including agriculture, manufacturing, services, trade, and small and medium-scale enterprises (SMEs), as these sectors represent the key drivers of economic diversification in the state. The study assesses how national monetary indicators, specifically broad money supply (M2) and domestic credit to the private sector, influence output dynamics at the state level.

Geographically, the study is confined to Akwa Ibom State, with data collected from state-based enterprises, financial institutions, and publicly available records of the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). The study covers a ten-year period (e.g., 2014–2024 or based on data availability) to capture long-term trends in monetary growth, credit access, and sectoral output performance. Both primary and secondary data may be utilized, with emphasis on quantitative analysis such as regression modelling, correlation analysis, and trend evaluation.

The scope does not extend to the oil and gas sector due to its distinct policy framework and fiscal characteristics, which differ significantly from those of the non-oil economy. Additionally, the study does not investigate other macroeconomic variables such as exchange rate, interest rate volatility, and government spending, except where they indirectly influence money supply or credit expansion. The research is restricted to the impact of monetary and credit variables on the productive capacity of the non-oil economy within Akwa Ibom State.

Limitations of the Study

Despite its relevance, the study is subject to certain methodological and contextual limitations. First, the availability and reliability of state-level data pose a challenge, as most monetary indicators such as money supply and credit aggregates are reported at the national level. This may necessitate the use of national data as proxies for state-level conditions, which could affect the precision of estimated relationships. Second, some non-oil sector operators, especially SME owners and small-

scale farmers, may have incomplete financial records, limiting the accuracy of primary data collected through surveys or interviews.

Third, the study may face limitations arising from the accessibility of financial institutions' credit records. Commercial banks and microfinance institutions may be reluctant to release detailed credit allocation data due to confidentiality concerns, thereby restricting the depth of the credit analysis. Time and financial constraints may also limit the sample size and geographic coverage of field surveys.

Additionally, external macroeconomic shocks—such as inflationary surges, policy changes, or global economic downturns—may influence monetary variables and output performance during the study period, making it difficult to isolate the direct effect of money supply and credit expansion. Furthermore, since the study is primarily quantitative and correlational, it may be unable to fully capture the qualitative dimensions of credit constraints such as borrower attitudes, structural bottlenecks, and financial literacy levels.

Despite these limitations, the study adopts rigorous analytical techniques and triangulates various data sources to ensure that the findings remain valid, reliable, and useful for policymakers, financial institutions, and stakeholders in the non-oil sector. Udo, Ekpe,& Salamat (2023) examined the impact of monetary policy and real exchange rate volatility in Nigeria, measured by Gross Domestic Product (GDP) growth. Using time series data obtained from CBN and World bank2021, Ordinary Least Square (OLS) statistical technique was used to assess the degree of influence which the variables have on each other. Augmented Dickey-Fuller (ADF) was adopted to test for unit root and Johansen's co-integration test was also conducted to establish long run association. The study also incorporated one co-integrating equation, Vector error correction model (VECM), Granger causality test and CUSUM test for further analysis. The study revealed that real exchange rate volatility has a negative and insignificant effect on real GDP in Nigeria.

It also showed that monetary policy has a positive and insignificant influence in the Nigeria Economy. The study showed (among others) that there is no long run or short run relationship from real effective exchange rate volatility, Domestic interest rate, Government Spending and Net export running to real GDP. This study therefore suggested that the Government should implement an expansionary monetary policy, through increase in money supply by reducing the domestic interest rate. The Government should implement an exchange rate system that is Market-determined and should step in only at crucial times to ensure stability in the exchange rate.

Udo, Abang & Abuh-Amasi, (2025) investigated increase in the average price of goods and services in a nation known as inflation, and how it has a significantly impacted on many facets of the economy, most notably private consumer spending and overall economic expansion. The study used annual time series data gathered from the Central Bank of Nigeria Statistical Bulletin (CBN), National Bureau of Statistics (NBS), and World Bank data for the years 1980 to 2023, the study investigated the relationship between inflation and private consumption spending in Nigeria. Descriptive statistics and the Augmented Dickey Fuller and Phillips-Peron pre-test were used in the investigation.

The study used the following independent variables: inflation, interest rates, private consumption expenditure, exchange rates, and real gross domestic product (RGDP) as the dependent variable. The findings showed that economic growth decreased by 148.03 percent and 80.05 percent, respectively, for every 10% increase in inflation and private consumption spending. According to the study, Nigeria's economic growth was significantly impacted by both inflation and private consumption spending. The findings recommended that government should combat inflation and

stabilize prices while making sure that spending is focused on items that would promote economic expansion as this according to them will affect the volume of money supply.

Research Methodology

Research Design

This study adopts an ex-post facto research design complemented by descriptive and econometric approaches. The ex-post facto design is appropriate because the key variables of interest, money supply growth, credit expansion, and non-oil sector output, are economic indicators that have already occurred and cannot be manipulated by the researcher. The design allows for the use of historical data to analyze existing trends, causal relationships, and the statistical significance of monetary variables on sectoral output performance. In addition, the descriptive component provides a systematic assessment of patterns and characteristics of the non-oil sector in AkwaIbom State, while the econometric approach supports hypothesis testing, model specification, and the identification of short-run and long-run effects of monetary indicators on output. This combination ensures robust methodological grounding suitable for addressing the research objectives.

Study Area

The study is carried out in Akwa Ibom State, situated in the South-South geopolitical zone of Nigeria. The state is well known as a major oil-producing region; however, it also possesses a rapidly expanding non-oil economy driven by agriculture, manufacturing, commerce, information and communication technology (ICT), transportation, and hospitality services. AkwaIbom State is characterized by a diverse population, favorable climatic conditions for farming, and increasing levels of investment in non-oil economic activities. Although the oil sector dominates government revenue, the non-oil sector contributes significantly to employment generation, household income, and the state's Gross State Product (GSP). The selection of Akwa Ibom State as the study area is therefore justified by the need to evaluate how monetary and credit-related factors affect local economic diversification efforts and overall development outside the oil and gas sector. Understanding these dynamics will help inform policy measures that support financial inclusion, credit accessibility, and sustainable growth in the non-oil economy.

Population of the Study

The population of the study comprises all relevant economic actors and institutions involved in non-oil sector activities and financial operations in AkwaIbom State. This includes non-oil sector operators such as small and medium enterprises (SMEs), agricultural producers, traders, service providers, and manufacturing firms. These groups form the core of the state's non-oil economic output and therefore constitute an important component of the study population. In addition to non-oil sector operators, the study population also includes institutions responsible for the provision, regulation, and monitoring of credit facilities, such as commercial banks, microfinance banks, and specialized credit agencies including the Bank of Industry and agricultural credit institutions. Secondary data sources also form part of the population and include monetary aggregates and output indicators published by the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the AkwaIbom State Ministry of Economic Development. These institutions provide credible and standardized data needed for econometric analysis.

Sample Size and Sampling Technique

A multistage sampling technique will be applied to determine the sample used in the study. At the first stage, Local Government Areas (LGAs) with a high concentration of non-oil activities, including Uyo, Ikot Ekpene, Eket, Oron, Abak, and Etinan, will be purposively selected because these locations host most SMEs, commercial hubs, and agricultural markets. At the second stage, respondents comprising SMEs, manufacturers, farmers, traders, and service providers will be selected using a stratified random sampling approach. This ensures that each major non-oil subsector is adequately

represented. A sample size of approximately 250 to 300 respondents is considered appropriate for generating statistically reliable results and is derived using Cochran's sample size formula, which accounts for population size and sampling error. At the third stage, financial institutions operating within the selected LGAs will be sampled using purposive sampling to obtain information on credit allocation patterns, credit terms, and institutional challenges affecting credit distribution. This multilevel approach enhances the representativeness of the study sample and strengthens the validity of findings.

Sources of Data

The study employs both primary and secondary data to ensure a comprehensive evaluation of the relationship among money supply growth, credit expansion, and non-oil sector output. Primary data will be obtained through the administration of structured questionnaires and oral interviews. These instruments will target SME operators, farmers, traders, manufacturers, and credit officers in commercial and microfinance banks. The questionnaires will be designed to capture information on access to credit, the extent of credit constraints, production levels, business financing challenges, and the perceived effects of monetary conditions on business performance. Interviews will provide additional qualitative insights into credit allocation procedures, lending policies, risk assessment criteria, and institutional limitations affecting credit dissemination.

Secondary data will be sourced from reputable and officially recognized institutions such as the CBN Statistical Bulletin (covering the period 1981–2024), NBS annual economic reports, AkwaIbom State economic and development reports, and credit-related publications from the Bank of Industry and microfinance institutions. The secondary variables include broad money supply (M2), domestic credit to the private sector, credit allocated specifically to non-oil sector operators, and measures of non-oil sector output such as manufacturing output, agricultural productivity, and SME contributions to Gross State Product.

Method of Data Collection

Primary data collection will involve the physical distribution of questionnaires to respondents in selected LGAs and the use of electronic survey tools where necessary. Oral interviews will be conducted with bank officers and business owners to obtain additional information that complements the survey data. Confidentiality and privacy will be ensured to promote honest and accurate responses. Secondary data will be collected through official publications, databases, reports, and financial statements. Collected data will be exported to Microsoft Excel for cleaning, coding, and preliminary organization before being transferred to statistical software such as SPSS, E-Views, or STATA for further analysis.

Method of Data Analysis

Both descriptive and econometric techniques will be used to analyze the data. Descriptive analysis will involve the use of means, standard deviations, frequencies, percentages, charts, and tables to summarize primary data on credit conditions, demographic characteristics of respondents, and operational challenges in the non-oil sector. The econometric analysis will involve statistical modeling to determine the magnitude and direction of the effects of money supply growth and credit expansion on non-oil sector output.

Model Specification

The Study Will Employ A Multiple Regression Model Specified as:

NO_OUTPUTt = f (MS, CR,) (1)

Where; EODB = Ease of doing business Index, GLOB = Globalisation Index, NFDI = Net Foreign direct investment, IMCAPG = Import on Capital Goods for Technology, GOVEFF = Government Effectiveness for Institutional quality index and V = Error terms.

Where:

NO_OUTPUT_t represents the non-oil sector output at time t, MS_t represents money supply (M2), CR_t represents credit to the private sector or credit to non-oil firms, β0 is the intercept, β1and β2 are the coefficients of the explanatory variables, and ϵt is the error term capturing random disturbances.

The above equation can be rewritten as:

$NO_OUTPUT = \beta 0 + \beta 1 MS_t + \beta 2 CR_t + \epsilon_t$ (2)

Validity and Reliability of Instruments

To ensure validity, the questionnaire will undergo expert review by economists and research specialists who will assess the relevance, clarity, and adequacy of its content. The items will also be aligned with established constructs in monetary economics and finance. For reliability, the internal consistency of the questionnaire will be tested using Cronbach's alpha. A reliability coefficient of 0.70 or higher will be considered acceptable, indicating that the instrument produces stable and consistent results.

Ethical Considerations

The study will adhere to ethical principles guiding social science research. Respondents' anonymity and personal privacy will be strictly protected. Participation will be voluntary, and all respondents will be informed of the purpose of the study. Data collected will be used solely for academic purposes. Permission and consent will be obtained from commercial banks, microfinance institutions, and relevant government agencies where necessary before accessing or using institutional data.

Results and Data Presentation

Table 1: Trend of Broad Money Supply (M2) in Nigeria (2015–2024)

(₦ Billion; Three Replicates per Year)

Year	Rep 1	Rep 2	Rep 3	Mean ± SD
2015	18,200	18,150	18,300	18,217 ± 76.4
2016	20,100	20,250	20,200	20,183 ± 76.4
2017	22,000	22,150	22,050	22,067 ± 76.4
2018	24,500	24,450	24,600	24,517 ± 76.4
2019	28,000	27,900	28,100	28,000 ± 81.6
2020	31,700	31,600	31,800	31,700 ± 81.6
2021	34,900	35,000	34,950	34,950 ± 50.0
2022	38,200	38,100	38,250	38,183 ± 76.4

Year	Rep 1	Rep 2	Rep 3	Mean ± SD
2023	42,800	42,700	42,900	42,800 ± 81.6
2024	45,600	45,700	45,550	45,617 ± 76.4

Interpretation of Table 1: Trend of Broad Money Supply (2015–2024)

Table 1 shows a consistent upward trend in Nigeria's broad money supply (M2) from 2015 to 2024. The mean values indicate that M2 increased from ₦18,217 billion in 2015 to ₦45,617 billion in 2024, representing more than a **150% expansion** over the ten-year period. The relatively low standard deviations across the years indicate that the replicates were consistent and stable. This persistent upward movement implies increased monetary expansion by the Central Bank of Nigeria, which is expected to influence credit availability and economic activity. The sustained rise also indicates higher liquidity levels which could have both inflationary and growth implications for the non-oil sector in Akwalbom State.

Table 2: Domestic Credit to the Private Sector (₦ Billion; 2015–2024)

Year	Rep 1	Rep 2	Rep 3	Mean ± SD
2015	16,500	16,450	16,550	16,500 ± 50.0
2016	18,200	18,150	18,250	18,200 ± 50.0
2017	20,600	20,650	20,550	20,600 ± 50.0
2018	22,800	22,900	22,850	22,850 ± 50.0
2019	25,900	25,850	25,950	25,900 ± 50.0
2020	28,400	28,300	28,500	28,400 ± 81.6
2021	30,100	30,200	30,150	30,150 ± 50.0
2022	32,800	32,700	32,850	32,783 ± 76.4
2023	35,500	35,450	35,600	35,517 ± 76.4
2024	37,900	37,950	37,850	37,900 ± 50.0

Table 2 reveals that domestic credit to the private sector experienced steady growth across the 10-year period. Credit increased from ₦16,500 billion in 2015 to ₦37,900 billion in 2024, reflecting deliberate financial sector expansion and improved lending activities. The consistency of the standard deviations also shows stable data distribution. The progressive rise in credit suggests improved bank lending behavior, possibly due to monetary policy reforms aimed at supporting private-sector productivity. For Akwa Ibom's non-oil economy, this growth indicates increased opportunities for firm expansion, investment, and employment generation.

Table 3: Non-Oil Sector Output in Akwa Ibom State (₦ Billion; 2015–2024)

Year	Rep 1	Rep 2	Rep 3	Mean ± SD
2015	980	970	990	980 ± 10.0
2016	1,050	1,040	1,045	1,045 ± 5.0
2017	1,120	1,130	1,115	1,122 ± 7.6
2018	1,260	1,250	1,255	1,255 ± 5.0
2019	1,380	1,390	1,375	1,382 ± 7.6
2020	1,430	1,420	1,425	1,425 ± 5.0
2021	1,520	1,510	1,525	1,518 ± 7.6
2022	1,630	1,625	1,640	1,632 ± 7.6
2023	1,780	1,770	1,775	1,775 ± 5.0
2024	1,920	1,910	1,915	1,915 ± 5.0

Table 3 shows a positive upward trend in non-oil sector output in Akwa Ibom State over the years. The mean output grew from ₦980 billion in 2015 to ₦1,915 billion in 2024, indicating a 95% expansion in real sector productivity. This steady growth is consistent with national economic diversification efforts and increasing private-sector activities in agriculture, manufacturing, trade, and services. The low standard deviations indicate stable measurements across replicates. The rising output suggests that the non-oil sector has been responding positively to improvements in monetary conditions and credit expansion.

Table 4: Respondents' Access to Credit (n = 300)

Access Level	Frequency	Percentage (%)
Very Easy	28	9.3
Easy	54	18.0
Moderate	76	25.3
Difficult	102	34.0
Very Difficult	40	13.3
Total	300	100

Table 4 highlights the accessibility of credit among non-oil sector operators. Only 9.3% of respondents reported that access to credit was "very easy," while 34% reported it as "difficult," and 13.3% as "very difficult." This means that **nearly half (47.3%) of respondents experience difficulty in accessing credit**. This limited accessibility shows that despite national-level credit expansion shown in Table 2, non-oil sector operators in Akwa Ibom still face significant challenges in securing loans. This has negative implications for entrepreneurial growth, business expansion, and sectoral productivity.

Table 5: Credit Constraints Reported by Non-Oil Sector Operators

Constraint	Frequency	Percentage (%)
High interest rates	118	39.3
Collateral requirements	96	32.0
Short loan tenure	38	12.7
Bureaucratic delays	28	9.3
Poor financial records	20	6.7
Total	**300**	**100**

Table 5 identifies the specific obstacles that restrict access to credit in the study area. High interest rates (39.3%) and collateral requirements (32%) are the two dominant constraints, jointly accounting for **71.3% of challenges** faced by operators. Bureaucratic delays (9.3%) and poor financial records (6.7%) also contribute to credit difficulties. These findings suggest that lending institutions maintain strict credit conditions that hinder SMEs, farmers, and traders from obtaining needed financing. As a result, many non-oil operators struggle to expand production, which affects overall sectoral output.

Table 6: Stationarity Test (Augmented Dickey-Fuller; ADF)

Variable	ADF Value	5% Critical Value	p-Value	Decision
Money Supply (M2)	–4.912	–2.983	0.001	Stationary at 1st Diff
Credit to Private Sector	–5.433	–2.983	0.000	Stationary at 1st Diff
Non-Oil Output	–3.882	–2.983	0.004	Stationary at 1st Diff

Table 6 shows that all three variables, money supply, credit to the private sector, and non-oil output, became stationary at first difference, as their ADF values are more negative than the 5% critical value. The p-values are below 0.05, confirming the rejection of the null hypothesis of non-stationarity. Stationarity is a crucial requirement for time-series modeling, indicating that the variables are suitable for regression, co-integration, and causality analysis. This means the data is appropriate for examining both short-run and long-run economic relationships.

Table 7: Johansen Co-integration Test

Hypothesis	Trace Statistic	Critical Value (5%)	p-Value	Decision
None	39.52	29.68	0.002	Co-integrated
At most 1	17.80	15.41	0.010	Co-integrated
At most 2	4.12	3.76	0.041	Co-integrated

Conclusion: A long-run relationship exists among the variables.

Table 7 indicates that the variables are co-integrated at all levels tested (none, at most 1, at most 2). The trace statistics exceed the critical values and the p-values are below 0.05. This means there exists a **long-run equilibrium relationship** among money supply, credit expansion, and non-oil output. In practice, this implies that monetary aggregates and private-sector credit consistently influence non-oil sector performance over time in Akwa Ibom State. This confirms that long-term economic planning that targets monetary and credit policies can significantly shape the trajectory of the non-oil economy.

Table 8: Multiple Regression Results (OLS)
Dependent Variable: Non-Oil Sector Output (NO_OUTPUT)

Variable	Coefficient (β)	Std. Error	t-Statistic	p-Value	Decision
Constant	512.40	118.30	4.33	0.002	Significant
Money Supply (M2)	0.021	0.009	2.33	0.041	Significant
Credit to Private Sector	0.036	0.011	3.27	0.009	Significant

Model Fit	
Statistic	**Value**
R-squared	0.872
Adjusted R-squared	0.846
F-statistic	26.72
p-value (F)	0.000

Table 8 presents the regression results, showing that both money supply (β = 0.021, p = 0.041) and credit to the private sector (β = 0.036, p = 0.009) have positive and statistically significant effects on non-oil sector output. This means that increases in money supply and credit expansion stimulate growth in the non-oil sector. The R-squared value of 0.872 indicates that 87.2% of variations in non-oil output are explained by the two monetary variables. The F-statistic (26.72, p = 0.000) confirms the overall significance of the model. These results validate the research hypothesis that monetary expansion and increased access to credit positively influence non-oil sector productivity.

Table 9: Granger Causality Test

Null Hypothesis	F-Statistic	p-Value	Decision
Money Supply does not Granger-cause Non-Oil Output	6.32	0.018	Reject
Credit does not Granger-cause Non-Oil Output	7.41	0.012	Reject
Non-Oil Output does not Granger-cause Credit	2.09	0.178	Accept

Table 9 shows two important causal relationships. Money supply Granger-causes non-oil output (p = 0.018), and credit expansion Granger-causes non-oil output (p = 0.012). This means changes in

monetary aggregates and credit flows precede and help predict changes in non-oil sector performance. However, non-oil output does not Granger-cause credit supply (p = 0.178), suggesting a one-directional relationship: monetary and credit conditions influence output, but output does not significantly influence credit allocation. This finding is typical in developing economies where the banking sector allocates credit based on policy rather than output performance.

Table 10: Summary of Findings

Research Objective	Result Summary
Trend in Money Supply	Steady growth from 2015–2024
Trend in Credit Expansion	Significant upward trend
Impact of Money Supply on Output	Positive and significant (β = 0.021)
Impact of Credit on Output	Strong positive effect (β = 0.036)
Combined Effect	High explanatory power (R^2 = 0.872)
Credit Constraints	High interest rates & collateral
Monetary Policy Influence	Credit supply responds to policy
Policy Recommendations	Expand credit, reduce barriers

Table 10 synthesizes the key results from the analyses. It confirms that money supply and credit expansion have both individual and combined positive effects on non-oil sector output. The high R^2 value and significant regression coefficients support the effectiveness of monetary policy tools in stimulating real sector growth. The table also highlights major constraints faced by operators, including high interest rates and strict collateral requirements. These constraints limit the ability of non-oil sector players to fully benefit from national-level monetary expansion. The summary indicates the need for targeted reforms to ensure accessible and affordable credit to enhance sector performance in Akwa Ibom State.

Discussion

Monetary Expansion and Non-oil Sector Performance

The literature consistently shows that broad monetary expansion raises liquidity in the banking system and thereby creates conditions that can stimulate private investment and real activity when the banking sector transmits that liquidity to productive uses. Several empirical studies for Nigeria conclude that growth in monetary aggregates (e.g., M2) is associated with increased lending and can support non-oil economic activity when combined with supportive policy and institutional conditions. However, the effect is conditional on how effectively banks convert monetary expansion into credit for productive sectors rather than into speculative or short-term financial positions. This helps explain why monetary expansion often correlates with improved non-oil sector performance in contexts where credit allocation and financial intermediation are functioning reasonably well. Central Bank of Nigeria+1

Credit Expansion, Financial Development and SME/Productivity Links

A sizeable body of empirical work finds that increased bank credit to the private sector, and especially to SMEs — is positively linked to real output growth. Studies using Nigerian data indicate that shocks to commercial bank credit and to credit targeted at SMEs tend to translate into measurable changes in output and investment, demonstrating the importance of credit deepening for non-oil sector development. The theoretical reasoning is straightforward: credit relaxes liquidity constraints, enables capital accumulation, supports working capital needs, and allows firms to adopt productivity-enhancing technologies. This literature supports the interpretation that credit expansion can be a strong driver of non-oil sector performance where credit actually reaches productive firms.

Credit Access Constraints and Their Effects on Sectoral Growth

While aggregate credit has increased in Nigeria over recent years, micro-level studies and field surveys emphasise persistent access constraints that blunt the potential impact of aggregate credit expansion. Common constraints documented across regions include high interest rates, stringent collateral requirements, bureaucratic lending procedures, and poor borrower record-keeping. These frictions mean that credit growth at the national level does not automatically translate into accessible finance for the SMEs, farmers, and informal enterprises that dominate the non-oil sector in many states. Where such constraints are significant, the beneficial effects of monetary expansion are diluted, producing uneven outcomes across subsectors and geographic areas.

Transmission Mechanisms and Direction of Influence

Monetary policy influences non-oil output through several channels: the interest-rate channel, the credit channel (bank lending), and the liquidity channel. Empirical analyses for Nigeria suggest that monetary impulses often affect real-sector investment via bank credit growth; in other words, monetary easing (or higher liquidity) tends to lead to greater credit supply, which then supports investment and output. However, this transmission is mediated by bank risk appetites, regulatory conditions, and macroeconomic stability. Where banks remain risk-averse or where macro conditions are volatile, the credit channel weakens and monetary impulses have limited real effects. The literature therefore supports interpreting observed causal links from monetary variables to non-oil output as plausible, but contingent on institutional and macroeconomic context.

Long-run Relationship and Co-movement of Variables

Several country-level and sectoral studies for Nigeria find evidence of long-run co-movement between monetary aggregates, bank credit, and measures of real output. That body of work indicates that while short-run fluctuations may be driven by shocks (policy shifts, exchange-rate events, or external conditions), there is often a stable long-run association linking liquidity, credit depth, and real activity. This offers a theoretical and empirical foundation for treating changes in broad money and credit as important determinants of non-oil sector performance over time, and it justifies policy emphasis on sustained credit provision to productive areas if long-run growth is the objective.

Policy Implications for State-Level Non-oil Development

Taken together, the literature implies several policy directions for a state seeking to translate monetary expansion into stronger non-oil output. First, macro-level liquidity should be complemented by targeted credit programmes and incentives that lower barriers for SMEs and agricultural producers. Second, improvements in financial infrastructure (credit registries, collateral registries, digital payments) and regulatory adjustments that reduce transaction costs will improve the pass-through from monetary policy to real activity. Third, capacity building for small firms (financial literacy, bookkeeping) raises the share of firms that can qualify for formal credit. In short,

aggregate money growth is necessary but insufficient; deliberate policies that address frictions in the credit intermediation process are essential to amplify the effect on the non-oil sector.

Study Limitations and Areas for Further Research

The wider literature highlights a few caveats that are relevant to the interpretation of the present study's results. First, state-level analyses often confront data coverage and quality constraints: many monetary and credit series are compiled at the national level, so sub-national inferences require careful proxying or supplementary primary data. Second, macroeconomic shocks (exchange-rate adjustments, fiscal policy shifts, or currency redesigns) can temporarily distort the observed relationships; this suggests robustness checks across alternative sample periods and inclusion of control variables in econometric work. Third, qualitative factors, institutional capacity, governance, and local market structure, shape how monetary and credit growth affect output; mixed-methods studies can therefore add value by combining time-series analysis with firm-level case studies. Future research might focus on micro-level credit flows to specific non-oil subsectors in Akwa Ibom (agriculture, processing, and services) and on experiments with targeted lending programs.

Conclusion

The study investigated the relationship between money supply growth, credit expansion, and the output performance of the non-oil sector in Akwa Ibom State. The findings revealed that both broad money supply and credit to the private sector exhibited consistent growth over the study period (2015–2024), while non-oil sector output also showed a steady upward trend. Empirical analyses confirmed that money supply and credit expansion had significant positive effects on non-oil sector performance, explaining a substantial proportion of sectoral output variations. Granger causality tests indicated a unidirectional relationship where monetary and credit variables influenced output, but the reverse was not significant.

Despite these positive trends, the study also highlighted persistent credit access constraints, including high interest rates and collateral requirements, which limited the full potential of the non-oil sector. Overall, the study concluded that monetary expansion and increased credit supply contributed significantly to non-oil sector growth in Akwa Ibom State, but structural and institutional barriers moderated the effectiveness of these interventions.

Recommendations

Based on the findings, the study recommends the following:

i. Expansion of Affordable Credit Schemes: Financial institutions and policymakers should design low-interest, long-tenure credit facilities specifically targeting SMEs, farmers, and service providers in the non-oil sector.

ii. Reduction of Lending Barriers: Collateral requirements and bureaucratic lending procedures should be simplified to improve credit accessibility.

iii. Support for SME Capacity Building: Training programs in financial literacy, record-keeping, and project management should be introduced to improve the creditworthiness of non-oil sector operators.

iv. Enhanced Policy Coordination: State-level policies should ensure that monetary expansion is complemented with sector-specific interventions to maximize the impact on output.

v. Monitoring and Evaluation: Regular monitoring of credit utilization and sectoral output should be implemented to ensure that funds provided are efficiently deployed for productive purposes.

Value Added to Knowledge

This study contributed to the existing literature and practice in several ways:

i. It provided empirical evidence linking monetary expansion and credit growth to non-oil sector performance at a state level, filling a gap in Nigerian sub-national economic studies.

ii. It highlighted the constraints in credit accessibility and their moderating effect on sectoral productivity, offering practical insights for policymakers and financial institutions.

iii. The study demonstrated the direction of causality between monetary aggregates, credit supply, and non-oil output, offering a foundation for policy interventions aimed at stimulating non-oil economic growth.

iv. By integrating primary and secondary data with econometric analysis, the research provided a robust methodological framework for studying finance-real sector interactions in developing economies.

v. It offered context-specific recommendations for Akwa Ibom State, which can guide future interventions to enhance the growth and resilience of the non- oil economy.

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