International Journal of Advanced Studies in Economics and Public Sector Management | IJASEPSM
p-ISSN: 2354-421X | *e-ISSN: 2354-4228*
Volume 13, Number 2 November, 2025

Effect of Deposit Money Banks' Loan on Small and Medium Enterprises in Nigeria

Wisdom Selekekeme Krokeyi
Department of Economics, Faculty of Social Sciences,
Niger Delta University, Wilberforce Island, Bayelsa State

Article DOI: 10.48028/iiprds/ijasepsm.v13.i2.06

Abstract

The paper investigates the impact of loan of commercial banks on small and medium businesses in Nigeria on the basis of the Autoregressive Distributed Lag (ARDL) model. The analysis was done using an annual time series data containing the data that spans between 1981 and 2023. It was discovered that the contribution of retail and wholesale trade made by SMEs to the GDP was positively and significantly influenced by the loan provided by commercial banks to SMEs and gross fixed capital formation in the long run and in the short run. The long-run effects of working age population were also established to have a positive and significant impact on the retail and wholesale trade contribution to the GDP, and an insignificant impact in the short-run. The results further revealed that the loan of commercial banks to the SMEs, gross fixed capital formation positively and significantly influenced the value added of the small and medium-scale enterprises in both the long-run as well as in the short-run. It was also established that working age population contributed positively and significantly towards the long run value added of small and medium size enterprises, but negatively and significantly towards the short run value added of small and medium size enterprises. It was also found that lending rate had a negative and significant impact on the value added of small and medium-scale enterprises in the long run, but positive and insignificant impact in the short-run. The government needs to enhance access to credit by SMEs and facilitate capital investment by motivating commercial banks to lend more to SMEs and the development of infrastructure. The working age population is also suggested to be targeted with training programs to enable it increase its contribution to SMEs value added in terms of labour.

Keywords: *Credit, Deposits, Money, Loans, SMEs.*

Corresponding Author: **Wisdom Selekekeme Krokeyi**

Background to the Study

It is hard to overestimate the role of small and medium scale enterprises and the evolution of any economy. Farmers see entrepreneurship as a source of commercial farming with better farm profit, and the unemployed can see it as a local employment opportunity that provides them with autonomy, self-reliability, and less social support (Echem, Aduku, and Ejiofor, 2022). Entrepreneurship is the creation of commercial / entrepreneurial activities and is a channel to enhance the quality of life of people, families, and communities, especially in developing countries (Eboh, Aduku, and Ejiofor, 2021; Krokeyi, Aduku, and Ejiofor, 2021). Micro, Small, and Medium-Scale Enterprises This category of entrepreneurship has gained popularity not only in the developing countries but also in the entrepreneurship literature over the years.

SMEs have an impact on the economy by manufacturing goods and services, generating employment opportunities on a relatively low capital basis, especially in the fast-growing wholesale, retail and service sectors, and assistance in minimizing income inequalities (Krokeyi, Aduku, & Anyanwu, 2021). Moreover, SMEs are well known in creating a base of skilled and semi-skilled labor to jumpstart industrial growth in the future and enhances forward and backward integration between economic, social, and geographically heterogeneous branches of the economy. The SMEs are also a source of the creation and adjustment of suitable technological strategies and offering an excellent incubator of managerial and entrepreneurial skills, the acute lack of which can be a serious obstacle to economic progress (Invoice, 2021). Nigeria has a population of about 17.4 million people with SMEs contributing 48 percent of the GDPs in the country, 96 percent of businesses and 84 percent of jobs in the last five years. They also have over half of the total industrial occupations and close to all the manufacturing industry in terms of businesses (Adejoh, 2021; Krokeyi, Aduku, and Anyanwu, 2021). SMEs also need adequate capital as both short- and long-term loans to accomplish their economic role. The aim of the intermediation role of commercial banks is to provide SMEs with financial assistance, in the form of a commercial bank loan (John-Akamelu & Uju, 2018).

The economy is dependent on commercial bank loans. The commercial banks raise funds in the surplus spending unit and move them to the direct spending unit at fee. Commercial banks are important since they serve as channels of innovation. The means of making sure that savings are spent wisely is by identifying and supporting good investors, implementing innovative production processes, which are the most important ways of achieving output growth (Innocent, Ademola, and Glory, 2019). Commercial bank credit stands a chance of playing a major role in ensuring the growth of output. The credit provided by commercial banks can enable the investors to invest more and more quickly than they would have done with their funds. Internal sources would force many investors to place their expansion plans on permanent hold (Rodriguez & Chavez, 2023). Commercial bank loans can be utilized to increase production, productivity, and efficiency of businesses, and it increases the profitability of banks through the interest collected (Rodriguez and Chavez, 2023; Innocent, Ademola, and Glory, 2019). Small and medium-sized businesses rely on financial intermediaries to finance their activities before and after being formed. Traditional

commercial banks have the opportunity to aggregate financial resources to fund the loan requirements of SMEs; a fact that is significant in most financial systems of virtually all economies.

The connection between commercial bank loans and small and medium-sized firms (SMEs) is of vital importance because one of the most challenging problems related to SMEs is the access to capital. Over the past few years, commercial banks have developed additional SME friendly products (e.g. microloans and asset-based lending) in order to increase access to credit. A majority of the SMEs depend extensively on commercial banks to provide funds. SMEs unlike large companies might not have access to capital markets or substantial internal funds and bank loans will therefore be important to their development and business. SMEs might not be able to grow without bank finance or loans and this minimises their competitive advantage and future growth. Short term loans or even credit lines are needed by many SMEs to cope with cash flow and working capital, especially in those businesses that have cyclical or seasonal cash flow. Bank loans facilitate the above gap between receivables and payables to ensure smooth operations, ensuring the improvement of the performance of SMEs.

Statement of the Problem

Barring the critical role played by SMEs in economic growth and employment generation, Nigeria has made some significant moves to ensure that SMEs gain access to commercial bank loans through a combination of funding schemes, credit guarantees, legislative amendments, and partnerships with fintech agencies. Some of the key initiatives include the formation of the Bank of Industry (BOI) and the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), which have been working with commercial banks to co-finance projects, expand the access of SMEs to financing and offer affordable, long-term financing solutions that suit SMEs in their sectors like manufacturing, wholesale and retail trade and others. The Central Bank of Nigeria, too, created the Micro, Small, and Medium Enterprises Development Fund (MSMEDF) which helps to finance cheaply SMEs and 60 percent of the money is intended to women entrepreneurs. This fund is available to commercial banks and they can loan the SMEs at reduced interest rates. Nigerian commercial banks have also over the years come up with certain SME lending products, which can also have the option of light repayment and non-collateralized loans to the small enterprises. These products, in combination with the reduced capital requirements of the CBN on SME loans, have already led other banks to come up with SME solutions.

The SMEs are still held back by financial constraints, dearth of technical and conceptual capacity, ineffective human resources, and other factors. Consequently, reducing the capacity of SMEs to execute the desired mandate is an area of concern, considering that the country is experiencing an increasing unemployment rate, low rate of intensive growth, and per capita income. The fact that many commercial banks have yet to provide specific financial products to SMEs continues to restrict access to cheap finance. SMEs often find it difficult to compete with other larger business enterprises, because they have less access to the market, no marketing and distribution support, no exportation abilities, high compliance costs, and problems with meeting international standards. A lot of SMEs do not have best financial

management strategies, and thus it is hard to secure loans or investors. New SMEs that survived to the fifth year were only 50 percent. This weakness of the SMEs during the periods of growing financial assistance to SMEs necessitates an empirical study on the impact of commercial banks loan on SMEs.

Despite some studies regarding the impact of commercial banks loan on SMEs (Ikoro, & Tochi-Ndubueze, 2024; Musa & Ahmad, 2024; Nworie, and Onochie, 2024; Ovedje, 2024; Amadi, Eli, and Samuel, 2023; Oguh and Adjene, 2023). The studies are however mostly firm (SME) specific. All past researches in Nigeria have not studied the impact of the loan by commercial banks on the output of the SMEs and the value added by the SMEs in the wholesale and retail trade sector. Although majority of enterprises in the wholesale and retail trade sector this is among the concerns that prior studies have not put into consideration, the great issue that concerns the impact of commercial banks loan on the output of SMEs and value added at the macro level in the wholesale and retail trade sector. This research will, therefore, enhance our knowledge on the impact of commercial banks loan on SMEs in terms of SMEs output and value added at the macro level in the wholesale and retail trade sector.

Objectives of the Study

The general aim of the research is to investigate how the loan by deposit money banks has impacted the small and medium enterprises in Nigeria. The specific objectives are:

i. To investigate the impact of loan provided by deposit money banks on the output of the small and medium scale enterprises in Nigeria.
ii. To explore how the loan by the deposit money banks will impact the value added of small and medium-scale enterprises in Nigeria.

Conceptual Framework

Deposit Money Banks' Loan

The commercial banks are accessible to the general population and they provide services to individuals, institutions and businesses. John-Akamelu, and Muogbo (2018) define a commercial bank as a financial organization that has legal powers to take deposits by corporations and individuals and to loan money to the depositors. It is an institution that takes deposits, issues business loans, and other related services (John-Akamelu, & Muogbo, 2018). Loan refers to an outpouring of finances between the lender and the borrower. A loan is an obligation by one party to pay back another either a sum of money or goods and services acquired. A loan is a payment that is given out with a specified date of repayment. It is also impossible to divide Laon and commercial banks as they provide a channel through which funds can be admitted to the economy in form of deposits and then sent to the deficit units, which need cash to be applied productively (Aremu, Suberu, and Oke, 2016). According to Ngong, Onyejiiku, Fonchamnyo, and Onwumere (2023), commercial bank loans refer to commercial bank lending to businesses to invest in the businesses. Magaji, Usman, and Yusuf (2023) and Ayuba, Magaji, and Kuna (2013) categorized commercial bank loans as trade credit, invoice discounting, bill financing, hire purchase, factoring, overdraft, advances, and loans, and commercial papers (or notes).

Bank loan is also the commercial bank loan that the banks provide as loans and advances which have a later date of repayment. Commercial banks loan is the people, businesses or organisations borrowing capacity that is availed by the commercial banks in form of cash loans. Jude and Onyekachi (2018) also define commercial bank loans as the borrowing capacity of commercial bank in the form of loans handed to individuals, governments, businesses, or organisations. The commercial banks can also consider collateral availability in deciding the borrowing capacity. This is to provide the banks with something to rely on in case of a default; however, a loan can be offered on trust in the event of a long-term relationship between the bank and the management of a small business (Ikoro, & Tochi-Ndubueze, 2024). Commercial banks loan will be considered the loan issued to SMEs in order to assist them in addressing their financial requirements.

Theoretical Literature

Schumpeter's Theory of Entrepreneurship

The theory was propounded by an Austrian economist known as Joseph Schumpeter (1949). The theory has also been referred to as the theory of innovation and entrepreneurship. The theory of entrepreneurship by Schumpeter regards entrepreneur as the engine of economic change to the effect that economic growth and development is achieved as a result of their actions. According to the theory, the main activity of the entrepreneurs (SMEs) was seen not depending on whether the entrepreneurial operation is carried out by an individual or an organization. According to the theory created by Schumpeter, a distinction between innovation and invention is made, which states that entrepreneurship is a process that includes the development of innovations and that only innovation is the key to the real position of a businessman (Adejoh, 2021). Joseph Schumpeter, the theorist introduces the element of innovation as a crucial element in entrepreneurship besides taking risks and arranging factors of production. Joseph Schumpeter considered the entrepreneurship as creative labor and an innovator introducing new services and products into the economy. Innovation to him is an instrument of an entrepreneur, which is believed to be the driver of economic growth (Adejoh, 2021). Schumpeter (1949) found out five types of entrepreneurial behaviours and three great motivations of the entrepreneurs.

According to Dorin and Alexandru (2014), the categories of entrepreneurial behaviours are:

i. Introduction of a new good that is unfamiliar with the consumers or introduction of a new quality with an already existing product.
ii. Introduction of a new method of production that has not yet been tried out through experience.
iii. Creation of new market
iv. The search of new sources of raw materials.
v. Development and implementation of the new organization of any industry.

The entrepreneurship drivers are on the contrary:

i. The thirst to be economically powerful and independent.
ii. The desire to triumph
iii. The joy of creating

Frank Knight Risk Bearing Theory of Entrepreneurship

Frank H. Knight propounded the Risk-Bearing Theory of Entrepreneurship in 1921. The concept that Knight has is that the uncertainty surrounding the success/failure of any business is what makes people choose to either employ or to be employed thus, to be an entrepreneur. Therefore, economic development is the task of entrepreneurs not only in the technological advancement, but in the business organization itself. Nonetheless, entrepreneurship is a risky and uncertain venture. In contrast to the Schumpeterian theory of entrepreneurship in which risk-taking was never part of the entrepreneurial role, the theory proposed by Knight presumes the uninsurable business risk (Rocha, 2012). A role of relevant entrepreneurs in this theory was risk-bearing.

The important features of the theory are:

i. Risks generate profit: This theory states that entrepreneurs generate a profit due to the fact that they take risks.
ii. Increased risk increased profitability: It is not the same high-level risk among industries. Risk is taken depending on the capacity of the entrepreneur. According to the Knight risk theory, the riskier the nature business is, the greater the profit has to be.
iii. Profit as a reward and cost: Profit is regarded as the reward of the risks taken and also regarded to be included in the normal production cost in business.
iv. The earnings of the businesspersons are uncertain: According to this theory, uncertainty is interpreted as a scenario in which the probability of an alternative outcome cannot be forecasted through simple reasoning or through statistical considerations. Knight in his theory argued that the level of uncertainty in business enterprises could be lowered through 'consolidation', a technique cutting down uncertainty by bringing together individual instances.

Economic Theory of Entrepreneurship

Various economists have over time developed the economic theory of entrepreneurship. Nevertheless, there were early theorists of economic thought of entrepreneurship, such as Richard Cantillon in 1730s, Jean-Baptiste Say in 1803, and Joseph Schumpeter in 1934 and Papanek and Harris (Dorin & Alexandru, 2014). Most economists believe that the process of entrepreneurship and economic growth would occur when there are favourable economic conditions that are favouring business environment. Entrepreneurship may be influenced by many economic factors. These factors include:

i. Banks credit availability
ii. Savings and investment flow + capital formation.
iii. loanable funds supply along with the innocent level or middle rate of interest.
iv. demand of goods and services is high. v. Availability of productive resources. vi. Proper monetary and fiscal policies.
v. Sufficient communication and transportation network.

There are also instances where some authors over the years have attributed the rise of entrepreneurship to factors that are regional to the economy such as support of the environment by industries. The business environment would greatly dictate the performance and existence of the entrepreneurs.

Empirical Literature

Ikoro, and Tochi-Ndubueze (2024) have studied the effects of commercial bank credit on the performance of small and medium scale enterprises in Nigeria. The case study discussed the time span between 2005 and 2021. The analysis of data was in terms of least square regression analysis. It was established that credit by commercial banks had a positive and significant influence to SMEs productivity in Nigeria. On the other hand, the lending rate was identified to have a negative and significant influence on the productivity of SMEs in Nigeria. Musa and Ahmad (2024) examined how the output of SMEs in Nigeria is influenced by lending by the bank sector in the years 1991-2020 using an ARDL model. They found that the effect of government expenditure was good in the short run but bank loans demonstrated a significant increase in the output of the SMEs in the long run. High interest rates had negative impacts on the output of SMEs.

Nworie, and Onochie (2024) investigated the impact of bank loans on entrepreneurial productivity in Nigeria between the year 2008 and 2022. In the analysis of the data, the descriptive and the ordinary least square (OLS) regression method were used. It was established that bank loans to small and medium scale enterprises have a huge contribution to entrepreneurial productivity in Nigeria.

Ovedje (2024) employed a cross-sectional study design to examine the issue of funding influence on growth of SMEs in Nigeria. Data of 309 completed surveys were analysed with descriptive and inferential statistics. The results showed that business angels and venture capital significantly boosted the growth of the SMEs compared to trade credit and bank overdrafts. In the recommendations, it was recommended to promote venture capital and business angels and limiting the use of trade credits and overdrafts.

Amadi, Eli, and Samuel (2023) employed the chi-square analysis to investigate the role played by deposit money banks in the growth of SMEs in Wukari, the Taraba State. The study has indicated that bank credit is hard to be acquired by SMEs but when it is acquired, it facilitates growth. To supply more lending, the research proposed to reduce collateral requirements. Duru, Orji, Osuji, Duru-Uremadu, Isiwu, and Onyeanu (2023) assessed the effect of bank lending on the output of SMEs in Nigeria on 1986-2020 with a model of overall impact of the bank lending on the SME output. Despite the positive influence of bank loans on the output of SMEs, various reactions to credit shocks indicated that the bank policies were not consistent as far as SMEs are concerned.

Oguh and Adjene (2023) exploited time-series data between 1981 and 2021 to determine the impact of bank lending rates on the growth of the Nigerian output. They found that prime lending rates affected the output of SMEs as they negatively affected its output, with monetary policy and Treasury bill rates doing so positively. To encourage the lending to SMEs, the study proposed the adjustment of the monetary policy rate.

Ogbuji, Onwuemele, Onwuemele, and Bello (2022) took 34 years of data and analysed it using regression models in order to determine the effects of the deposit money bank lending in

Nigeria on the development of SMEs in the country. They found out that even though interest rates, the level of inflation and the level of monetary policy influenced the GDP negatively, the bank lending had a positive effect on the economic growth.

Adewole and Aderemi (2021) investigated the relationship between SMEs and sustainable economic growth in Nigeria in the period 1992 to 2019 as a result of financing. The empirical investigation of the study used the Granger causality method and the multiple regression analysis. The data used in the empirical analysis include the GDP growth rate, commercial bank loans to the SMEs, commercial bank total credit to the private sector, broad money supply, and gross fixed capital creation. It was established that there was a positive and significant correlation between SMEs and GDP growth rate. The positive relationship between GDP growth rate and the gross fixed capital formation and the total loans by the commercial banks to the private sector was found to be negligible. Another finding of the study was a one to one-way feedback between the GDP growth rate and commercial bank loans to SMEs and unidirectional causal flow between the broad money supply and the gross fixed capital formation.

Adejoh (2021) investigated the commercial bank credit to Micro, Small, and Medium Enterprises (MSMEs) and economic growth in Nigeria between 1992 and 2020. The data was conducted in terms of Toda-Yamamoto (T-Y) procedure. The researchers established that there was no causation of commercial bank credit to MSMEs and economic growth in Nigeria. Kanu and Nwodiubu (2021) have tested the influence of commercial bank loans on the performance of small and medium-sized businesses in Nigeria over the last twenty years (19901990 to 2019). Multiple regression analysis was done on a yearly time series data of small and medium-sized business (SME) output, commercial bank loans to SMEs, average capacity utilisation, unemployment rate, interest rate, inflation and exchange rate. Empirical results of the study revealed that the amount of commercial bank loans available to the SMEs and their output in Nigeria are negatively related although not significantly.

A sample of 250 respondents was used by Akinadewo (2020) to explore the linkage between microfinance banks and growth of MSMEs within Nigeria. The study employed a logit regression analysis in order to analyse the data. It was discovered that the growth of MSMEs in Nigeria had a significant positive relationship with microfinance banks as assessed by small-scale financial services, financial sustainability, absence of asset-based collateral and advising services. This implies that any enhancement in the products of microfinance banks will help in enhancing the growth of MSMEs in the country.

The study conducted by Ayunku and Eweke (2020) investigated the relationships between the variables in the long-run and the short-run and determine the banks' lending effect on the Small and Medium Scale Enterprise in Nigeria based on annual data between 1992 and 2016. In long and short-run estimations, it was found that the performance of SMEs in Nigeria fell due to an increase in the bank credit, government tax revenue and negative shocks in interest rate, inflation rate and exchange rate. Also, in most cases the negative shocks had greater amplitude than the positive ones.

In order to examine the influence of microfinance banks' stringent lending requirements on the growth of small and medium-sized businesses, Khan (2020) surveyed 50 people about their experiences with SME development and microfinance. The study's hypotheses were tested using the Chi-square test. Despite the low number of firms using the fund owing to the high interest rate, it was found that the bank is in a good position to support the growth of SMEs in the study area. Additionally, it was found that the bank's stringent lending requirements discourage entrepreneurs from utilising their services. Bank loans helped small and medium-sized enterprises (SMEs) in Nigeria grow from 2008 to 2017, according to research by Aribaba, Ahmodu, Oladele, Yusuff, and Olaleye (2019). There was a favourable correlation between bank loans and SME growth, but a negative correlation between economic recessions and performance. The research recommended maintaining stable fiscal policies to help SMEs.

To determine the impact of bank loans on the expansion of Nigerian entrepreneurship, Adeleke & Elumah (2018) analysed data from 1992 to 2015. They found that savings and bank credit encouraged entrepreneurship, whereas high interest rates on loans discouraged it. According to the paper, high lending rates should be investigated as a means to promote entrepreneurship.

Between 1998 and 2017, the Nigerian economy and commercial bank loans to SMEs were studied by Olaoye, Adedeji, and Ayeni-Agbaje (2018). Various statistical methods were employed to examine the data, including descriptive statistics, correlation, ordinary least squares regression, and Granger causality analysis. A negative and negligible effect on GDP was observed as a result of commercial bank loans to SMEs. Additionally, a negative and negligible effect on GDP was observed for the average commercial bank lending rate to SMEs. Additionally, it was discovered that exploratory variables (commercial bank loans to SMEs, average commercial bank lending rate to SMEs, inflation rate) did not have a causal relationship with GDP. However, there was a causal relationship between SMEs and average commercial bank lending rate to SMEs and commercial bank loans to SMEs.

Using data from 109 respondents, John-Akamelu & Muogbo (2018) investigated how commercial banks in Nigeria support small and medium-sized enterprises (SMEs). We used a descriptive technique to analyse the data. Research shows that commercial banks have a hard time approving loans to small and medium-sized firms. The results also demonstrated that commercial banks' loans and advances had a significant impact on the growth of SMEs. Gololo (2017) looked at how commercial banks in Nigeria helped small and medium-sized businesses get the money they needed from 1991 to 2012. Using a paired sample t-test, we found that commercial bank loans, even after the equity program was put in place, did not significantly increase the amount of money that small and medium-sized enterprises (SMEs) were able to borrow.

Using data collected in Nigeria from 1986 to 2015, Ubesie (2017) analysed how loans from deposit money banks affected the expansion of SMEs. An ordinary least squares regression analysis was performed on the data. It was shown that small and medium-sized enterprises in

Nigeria did not grow significantly when loaned money by deposit money banks. It was also found that small and medium-sized firms in Nigeria were significantly impacted by the loans made to the private sector by deposit money banks.

Mmethodology

Research Design

A longitudinal research strategy was used in this study. The research makes use of a time series analysis, which is why this is the case. This research makes use of a time series dataset. Agricultural production, consumer price index, average annual rainfall, and loans and advances to agriculture from deposit money banks are all part of it. Timeliness and yearly frequency distributions characterize the study's data.

Model Specification

The first goal is to find out how much of an impact loans from commercial banks have on the production of small and medium-sized businesses. The first objective's functional model looks like this:

$$SMEGDP = CBL,\ GFCF,\ \text{WAP},\ LENDR \qquad (1)$$

Where:
SMEGDP = retail and wholesale trade contribution to GDP (a measure of SMEs' output)
CBL = commercial banks' loan to SMEs
GFCF = gross fixed capital formation
WAP = working age population (population of people who are within the working age of between 18 years to 65 years)
LENDR = lending rate

After taking the log of the variables, equation (1) is re-specified in autoregressive distributed lag (ARDL) form as follows:

$$SMEGDP = \beta_0 + \beta_1 SMEGDP_{t-1} + \beta_2 logCBL + \beta_3 logGFCF + \beta_4 log\text{WAP} + \beta_5 LENDR + \sum_{j=\text{k}}^{p} b_1 SMEGDP_{t-j} + \sum_{s=\text{k}}^{q} b_2 logCBL_{t-s} + \sum_{m=\text{k}}^{q} b_3 logGFCF_{t-m} + \sum_{z=\text{k}}^{q} b_4 logWAP_{t-z} + \sum_{z=\text{k}}^{q} b_5 LENDR_{t-z} + e_{1\text{t}} \qquad (2)$$

All of the elements in equation (2) that have a summation sign denote short-run variables, whereas the lag terms, which do not have summation signs, denote long-run variables. The elements that are already included in the rate are not recorded, including the retail and wholesale trade's contribution to GDP and the lending rate. A variable's long-run parameters are denoted by ϋ_i (i = 1, 2, 3, …5) and its short-run parameters are denoted as b_i (i = 1, 2, 3, …5), while the error term is represented by e_1t. By applying the Akaike information lag length selection approach, one may determine the ideal lag length.

The flexibility of this approach to using either a little or huge small sample size is a major plus. The model also provides objective estimates and t-values for both the short and long run, and it

incorporates endogenous regressors. Applying the model is still possible when the regressors are stationary at I(0), I(1), or both. If the variables are cointegrated, it means they are adjusting to a state of equilibrium, which the following model of error correction clarifies:

$$\Delta SMEGDP = b_0 + \sum_{j=k}^{p} b_1 SMEGDP_{t-j} + \sum_{s=k}^{q} b_2 logCBL_{t-s} + \sum_{m=k}^{q} b_3 logGFCF_{t-m} + \sum_{z=k}^{q} b_4 logWAP_{t-z} + \sum_{z=k}^{q} b_5 LENDR_{t-z} + ECM_{t-1} + e_{1t} \quad (3)$$

Where $ECM1_{t-1}$ is the error correction term. The following functional form is specified to capture objective two, which is to evaluate the influence of commercial bank loans on the value added of small and medium-sized firms;

$$SMEVA = CBL,\ GFCF,\ \text{WAP},\ LENDR \quad (4)$$

Where:
SMEVA = value added in wholesale and retail trade (a measure of SMEs' value added)
CBL = commercial banks' loan to SMEs
GFCF = gross fixed capital formation
WAP = working age population
LENDR = lending rate

After taking the log of the variables, equation (4) is re-specified in autoregressive distributed lag (ARDL) form as follows:

$$SMEVA = a_0 + a_1 SMEVA_{t-1} + a_2 logCBL + a_3 logGFCF + a_4 log\text{WAP} + a_5 LENDR + \sum_{j=k}^{p} h_1 SMEVA_{t-j} + \sum_{s=k}^{q} h_2 logCBL_{t-s} + \sum_{m=k}^{q} h_3 logGFCF_{t-m} + \sum_{z=k}^{q} h_4 logWAP_{t-z} + \sum_{z=k}^{q} h_5 LENDR_{t-z} + e_{2t} \quad (5)$$

All of the elements in equation (2) that have a summation sign denote short-run variables, whereas the lag terms, which do not have summation signs, denote long-run variables. There is no need to record the value added in retail and wholesale trade or the loan rate since these variables are already accounted for in the rate. The error term is denoted as e_2t, and the long-run parameters of the variables are a_i (where i = 1, 2, 3,..., 5), and the short-run parameters are h_i (where i = 1, 2, 3,..., 5). By applying the Akaike information lag length selection approach, one may determine the ideal lag length.

$$\Delta SMEVA = h_0 \sum_{j=k}^{p} h_1 SMEVA_{t-j} + \sum_{s=k}^{q} h_2 logCBL_{t-s} + \sum_{m=k}^{q} h_3 logGFCF_{t-m} + \sum_{z=k}^{q} h_4 logWAP_{t-z} + \sum_{z=k}^{q} h_5 LENDR_{t-z} + ECM_{t-2} + e_{2t} \quad (6)$$

Where $ECM1_{t-2}$ is the error correction term?

Definition of the Variables in the Model
Here we define the variables used in the models.
The retail and wholesale trade sector's contribution to GDP, also known as SMEGDP, is the

proportion of a country's GDP that is produced by retail and wholesale trade activities. The retail and wholesale sales of goods to other businesses and consumers are both encompassed within this industry.

The term "Value Added in Wholesale and Retail Trade" (SMEVA) describes the monetary worth that wholesale and retail intermediaries add to the flow of goods from manufacturers to consumers. Here we are talking about the small business's potential for success. Retail, wholesale, food service, and hotel revenue were used as surrogates. Reason being, retail and wholesale commerce constitute the bulk of SMEs' activities.

Small and medium-sized firms (SMEs) can get the funding they need for operations and expansion through commercial bank loans to SMEs, also known as CBLs. Small and medium-sized enterprises (SMEs) often don't have enough money on hand or access to financial markets, so these loans come in handy. Gross Fixed Capital Formation (GFCF): GFCF is a way to measure how much money an economy has put into fixed assets over a specific period of time. It represents the value of fixed assets (including buildings, machinery, and infrastructure) acquired by individuals, governments, and businesses, minus the value of assets sold. Because it shows how well an economy can grow its infrastructure and productive capacity over time, the GFCF is a crucial metric for economic research.

The percentage of a country's population that is considered to be of working age is called the working-age population (WAP). The typical age range for this group is 15–64. Interest Rate (LENDR): The amount that financial institutions charge customers who take out loans is known as the lending rate. Borrowing costs are often expressed as a proportion of the loan amount and are expressed as a percentage each year. Loan types, borrower creditworthiness, market circumstances, and the policy rate set by the central bank are the factors that determine lending rates.

Results and Discussion

Descriptive Statistics of the Variables

The variables' properties, including their mean and skewness, were investigated using descriptive statistics. On Table 1, you can see the computed results of these statistics.

Table 1: Descriptive Statistics

Variables	Obs.	Mean	Standard Deviation	Minimum value	Maximum value	P-value (Skewness)	Kurtosis (p-values)
SMEGDP	43	5641.135	4044.419	1662.301	12141.37	0.1305	0.0000
CBL	43	37174.16	27468.67	62.5102	123932.1	0.0096	0.1043
GFCF	43	8743.094	1992.303	5668.868	15789.67	0.0039	0.0186
WAPOP	43	45100000	14600000	23900000	72000000	0.4761	0.0249
LENDR	43	22.5952	6.0551	10.0000	36.0900	0.4135	0.9097
SMEVA	43	5174.675	3754.748	1492.021	11371.26	0.1262	0.0000

Source: Estimated by the researcher

Key indicators had the following average values throughout the research period: The retail and wholesale trade contribution to GDP, which represents the output of SMEs, was 5,641.135 billion rupees. On average, commercial banks loaned ₦37,174.16 billion rupees to SMEs. Gross fixed capital formation was 8,743.094 billion rupees. There were about 45 million people in the working-age population. The value added in wholesale and retail trade, which indicates the value addition of SMEs, was 5,174.675 billion rupees. Based on these averages, it appears that these factors mostly stayed the same over the time frame being considered. Similarly, the average lending rate for the whole study period was 22.59 percent, which is the mean.

Standard deviations of ₦4,044.419 billion, 6.06 percent, and ₦3,754.748 billion, respectively, show moderate variability in the retail and wholesale trade contribution to GDP (an indicator of SMEs' output), the lending rate, and the value added in wholesale and retail trade (a measure of SMEs' value added). These figures are relatively close to their mean values. This suggests that, over the course of the research, these variables did not deviate much from their average values. However, there is a significant amount of variation in the loans made by commercial banks to small and medium-sized enterprises (SMEs), gross fixed capital formation, and the working-age population (defined as those between the ages of 18 and 65). The standard deviations for these three variables are ₦27,468.67 billion, ₦1,992.303 billion, and 14 million, respectively. There were huge oscillations and a broader distribution range during the time under study, as indicated by these large deviations relative to their means.

Over the course of the research, the lowest recorded amounts for the following variables were: value added in wholesale and retail trade (a measure of the value that SMEs contribute to the economy), working-age population (individuals between the ages of 18 and 65), gross fixed capital formation, commercial banks' loans to SMEs, value added in retail and wholesale trade (an indicator of the output of SMEs), and ₦1,492.021 billion. The record-low lending rate was ten percent. Although the highest lending rate recorded during that period was 36.09 percent, the maximum values for the same variables were 12,141.37 billion, 123,932.1 billion, 15,789.67 billion, 72 million, and 11,371.26 billion, respectively. Data is symmetrically distributed around the mean when minimum values are less than the means and maximum values are greater than them. This indicates a balanced spread and the lack of notable outliers in the dataset.

Gross fixed capital creation and commercial bank loans to SMEs both had statistically significant probability values at the 5% level when it came to skewness. Because of this finding, we can rule out the possibility that these variables have normal distributions and instead infer that their distributions are asymmetrical and positively or negatively skewed. On the other hand, there was no statistically significant relationship at the 5% level between the lending rate, the working-age population (defined as individuals aged 18–65), the value added in wholesale and retail trade (an indicator of SMEs' output), and the retail and wholesale trade contribution to GDP. Consequently, we cannot rule out the possibility that these variables have normally distributed values; hence, we must accept the null hypothesis.

At the 5% level of significance, the following variables were identified: the working-age population (individuals aged 18 to 65 years), the value added in wholesale and retail trade (a measure of SMEs' value added), the contribution of retail and wholesale trade to GDP (an indicator of SMEs' output), and kurtosis. As a result, we may say that these variables' distributions do not follow a normal distribution with thick or thin tails, and we can reject the null hypothesis of normal kurtosis. This means that the variables in question do not follow the normal distribution. On the other hand, the lending rate and kurtosis probability values for loans to SMEs from commercial banks were not significantly different at the 5% level, thus we cannot rule out the possibility of normal kurtosis. Because of this, we may infer that the distributions of the two variables are normal.

Lag Order Selection

The ideal lag length was found using the Akaike Information Criterion (AIC). The results indicated that a lag duration of two was the most appropriate and statistically justified, as shown in Table 2. Therefore, the models utilised in this investigation were designed using a two-lag structure.

Table 2: Lag Order

Lag	LL	LR	df.	P	AIC	HQIC	SBIC
0	-2237.72				109.45	109.541	109.701
1	-2025.19	425.07	36	0.000	100.838	101.478	102.594*
2	-1973.08	104.21*	36	0.000	100.053*	101.24*	103.313

Source: Estimated by the researcher

Unit Root Test

To determine if the time series variables included in the models were stationary, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were used. You can see the outcomes of these tests in Table 3.

Table 3: Augmented Dickey-Fuller and Philips–Perron unit root test results

Variable	**Augmented Dickey - Fuller Result**		**Philips–Perron Result**		**Lag order**	**Order of Integration**
	Level	1st Difference	Level	1st Difference	Lag	Order of Integration
logSMEGDP	-2.216	-4.215	-1.683	-4.516	2	I(1)
logCBL	-2.322	-5.675	-3.044	-7.279	2	I(1)
logGFCF	-7.184	-	-5.984	-	2	I(0)
logWAPOP	-1.855	-3.565	-1.715	-5.219	2	I(1)
LENDR	-2.161	-3.808	-3.258	-9.059	2	I(1)
SMEVA	-2.350	-4.116	-1.662	-5.251	2	I(1)

When the null hypothesis that there is no unit root is rejected, the symbol * indicates significance at the 5% level. Using Akaike's Information Criteria (AIC), we determined that a lag length of 2 would be ideal. While the ADF 5% critical value for the fi rst difference is -3.544, it is -3.540 at the levels. At levels and the first difference, the Philips -Perron critical values are -3.532 and -3.536, respectively. Unit root test models generated by Augmented Dickey -Fuller and Philips-Perron both incorporated a trend.

Source: Estimated by the researcher

Results from the Augmented Dickey-Fuller (ADF) test show that, at level, all variables have test statistics below the 5% critical value, with the exception of gross fixed capital creation. At the 5% level of significance, all variables except gross fixed capital creation are not significant, indicating that the null hypothesis of a unit root cannot be rejected. Put simply, these variables did not exhibit stationarity when expressed as levels. To fix this, we repeated the stationarity tests at the first difference after differentiating the non-stationary variables once. The unit root hypothesis was rejected and the variables were confirmed to have been stationary following initial differencing when the test statistics above the 5% threshold levels. The findings from the Phillips-Perron (PP) test agreed, providing more evidence that all of the variables, with the exception of gross fixed capital creation, were initially non-stationary but achieved stationarity after initial differencing.

Effect of Commercial Banks' Loan on Small and Medium-Scale Enterprises' Output

One goal's model was to predict how small and medium-sized businesses' (SMEs') production will change in response to loans from commercial banks. In order to establish if the variables in the model for goal one was level-relationship (cointegrated), the analysis started with the Bounds test. Table 4 displays the outcomes of this examination.

Table 4: Bounds test result for the variables in the model for objective one

	10%		5%		1%		p-value	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
F	2.585	3.949	3.153	4.715	4.525	6.551	0.000	0.000
t	-2.474	-3.589	-2.843	-4.020	-3.595	-4.898	0.000	0.000
F = 7.187 t = -6.282								

Source: Author's computation

Because it is more than the lower and upper critical boundaries at the 5% significance level, the F-statistic value of 7.187 is significantly higher. The existence of cointegration among the variables is indicated by the rejection of the null hypothesis of no level relationship, as it surpasses the upper bound. Beyond that, the -6.282-absolute t-statistic is higher than the lower and upper crucial t-values at the 5% level, which further proves that there is cointegration. Additional evidence for rejecting the null hypothesis at both levels is provided by the statistical significance of the p-values for the level (order 0) and first-differenced (order 1) variables. With cointegration confirmed, it is reasonable to estimate the error correction model (ECM), as shown in Table 5.

Table 5: Error correction estimates of the ARDL model for objective one

The dependent variable is retail and wholesale trade contribution to GDP (a measure of SMEs' output) (SMEGDP)				
logD.SMEGDP	coefficients	Standard Errors	t-Statistics	P-value
Adjustment	-0.0485	0.0148	-3.28	0.000
Long-Run				
logCBL	0.1951	0.0697	2.80	0.003
logGFCF	2.8793	0.9827	2.93	0.000
logWAPOP	4.7275	2.1295	2.22	0.044
LENDR	-0.1030	0.0868	-1.19	0.246
Short-Run				
$logSMEGDP_{t-1}$	0.3538	0.1493	2.37	0.026
logCBL	0.2811	0.0898	3.13	0.000
logGFCF	0.0608	0.0221	2.75	0.008
logWAPOP	0.2045	0.5299	0.39	0.703
LENDR	0.0429	0.0596	0.72	0.328
Constant	-2.3049	1.4940	-1.54	0.135
R-squared			0.5987	
Adjusted R-Squared			0.3827	
Durbin–Watson d-statistic (15, 41)			2.4852	
Breusch–Pagan/Cook – Weisberg test for heteroskedasticity			1.02 (p = 0.0802)	

Source: Author's computation

A comparable t-value of -3.28 was shown by the results, which indicated an error correction adjustment coefficient of -0.0485. According to the statistically significant negative coefficient, the variables return to their long-run equilibrium at a pace of 4.85 percent annually whenever there is a short-run disequilibrium. What this means is that the system tends to fix itself after economic shocks throw it out of whack, but it could take a while for everything to fall back into place.

With a t-value of 2.80, the projected long-run coefficient for loans made by commercial banks to SMEs was 0.1951. The null hypothesis, which claims that commercial banks' loans to SMEs do not significantly affect retail and wholesale trade's contribution to GDP (a surrogate for SMEs' output), is rejected due to the t-value's statistical significance at the 5% level. The findings suggest that a 1% increase in loans made by commercial banks to SMEs leads to a notable 0.19% increase in the long-term contribution of retail and wholesale commerce to GDP. The calculated coefficient in the short run was 0.2811 and the t-value was 3.13, both of which indicate a positive and statistically significant association. This data reveals that in the near run, the retail and wholesale trade's contribution to GDP increases by 0.28% when commercial banks lend 1% more to SMEs. The results show that small and medium-sized enterprises (SMEs) benefited significantly from commercial banks' loans, which increased their long- and short-term contributions to GDP through retail and wholesale trade.

A t-value of 2.93 lends credence to the long-term coefficient of 2.8793 for gross fixed capital formation. Statistically, the t-value is significant at the 5% level, so we may reject the null hypothesis that argues that GFCF does not significantly affect the retail and wholesale trade's contribution to GDP (a measure of SMEs' production) in Nigeria. A rise of 1% in gross fixed capital formation is associated with a considerable increase of 2.88 % in the retail and wholesale trade's contribution to GDP, according to the results. Similarly, at the 5% level of significance, gross fixed capital creation showed a positive coefficient of 0.0608 with a t-value of 2.75 in the short run. If gross fixed capital formation increases by 1%, the retail and wholesale trade's contribution to GDP will rise by 0.06%, which is a significant increase. Both the long-term and short-term effects of gross fixed capital formation on the retail and wholesale trade's contribution to GDP were confirmed by the results.

Over the long term, the working-age population's estimated coefficient was 4.7275, with a t-value of 2.22 suggesting statistical significance at the 5% level. This group is defined as those between the ages of 18 and 65. Thus, we reject the null hypothesis that the working age population (those between the ages of 18 and 65) in Nigeria has no substantial effect on the retail and wholesale trade's contribution to GDP (a measure of SMEs' production). The long-term contribution of retail and wholesale commerce to GDP increases by a substantial 4.73% when the working-age population increases, according to the results. A t-value of 0.39 and an estimated coefficient for the working-age population of 0.2045 were statistically insignificant at the 5% level in the short term. Because of this result, we can accept the null hypothesis for the short term, which states that changes in the working age population do not significantly affect the contribution of retail and wholesale commerce to GDP. Taken together, the results show that the working-age population had a positive and statistically significant impact on the

retail and wholesale trade's contribution to GDP over the long term, but only a positive and weak influence over the short term.

A t-value of 1.19 indicates that the long-run loan rate coefficient is projected to be -0.1030. At the 5% level of significance, the t-value is not statistically significant, so we accept the null hypothesis that loan rate does not significantly affect the retail and wholesale trade contribution to GDP, which is a measure of the production of SMEs. According to the findings, a rise in the loan rate is correlated with a negligible long-term drop of 0.10 percent in the contribution of retail and wholesale trade to GDP. The t-value was 0.72 and the coefficient was 0.0429 in the short run, both of which are not statistically significant. There is a short-term positive correlation between a rise in the loan rate and a rise of the retail and wholesale trade contribution to GDP of 0.04%, according to this data. However, this correlation is not statistically significant. In general, the results show that loan rate had a short-term beneficial influence on retail and wholesale trade's contribution to GDP, but a long-term negative effect that was not statistically significant. A t-value of 2.37 and a retail and wholesale trade contribution to GDP coefficient of 0.3538 indicate that there is a strong positive relationship between changes in the retail and wholesale trade contribution to GDP and subsequent increases in retail and wholesale trade contribution to GDP.

Retail and wholesale trade's contribution to GDP (a measure of SMEs' production) in both the long and short run was determined to be roughly 59.87 percent by the independent variables, as indicated by the coefficient of determination (R^2) of 0.5987. Factors outside the scope of the model account for the rest of the variation. A result of 2.4852 was obtained via the Durbin-Watson test for autocorrelation. We accept the null hypothesis that there is no autocorrelation because this value is near to 2, which means that there is no substantial autocorrelation. Furthermore, a p-value of 0.0802 was obtained by the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, which yielded a test statistic of 1.02. The null hypothesis of homoskedasticity is accepted since the p-value is greater than the 5% significance criterion. This means that the residual variance is constant.

Effect of Commercial Banks' Loan on Small and Medium-Scale Enterprises' Value Added

In order to assess how commercial bank loans affected the value added of small and medium-sized businesses, a model was constructed for objective two. To start with, we ran the Bounds test to see if the variables in the second objective model were level-relationship (cointegrated). Table 6 displays the outcomes of this analysis.

Table 6: Bounds test result for the variables in the model for objective one

	10%		5%		1%		p-value	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
F	2.585	3.949	3.153	4.715	4.525	6.551	0.000	0.000
t	-2.474	-3.589	-2.843	-4.020	-3.595	-4.898	0.000	0.000
F = 7.475 t = -7.375								

Source: Author's computation

A 5% level of significance yields an F-statistic of 7.475 that is higher than the minimum and maximum critical values. The existence of cointegration among the variables is indicated by the rejection of the null hypothesis of no level relationship, as it surpasses the upper bound. Extra evidence of cointegration is provided by the absolute t-statistic value of -7.375, which is higher than the lower and upper crucial t-values at the 5% level. Additional evidence for rejecting the null hypothesis at both levels is provided by the statistical significance of the p-values for the level (order 0) and first-differenced (order 1) variables. With cointegration confirmed, it is reasonable to estimate the error correction model (ECM), as shown in Table 5.

Table 7: Error correction estimates of the ARDL model for objective two

The dependent variable is value added in wholesale and retail trade – a measure of SMEs' value added (SMEVA)				
D.SMEVA	coefficients	Standard Errors	t-Statistics	P-value
Adjustment	-0.0321	0.0011	-3.38	0.000
Long-Run				
logCBL	3.1186	0.9537	3.27	0.000
logGFCF	5.8029	2.3589	2.46	0.019
logWAPOP	1.7379	0.4514	3.85	0.000
LENDR	-7.4191	3.3570	-2.21	0.048
Short-Run				
$SMEVA_{t-1}$	0.5642	0.1208	4.67	0.000
logCBL	4.4618	1.3521	3.30	0.000
logGFCF	2.6899	0.9244	2.91	0.000
logWAPOP	-1.5673	0.5519	-2.84	0.001
LENDR	13.2107	11.9347	1.11	0.278
Constant	-8.1785	5.0175	-1.62	0.116
R-squared			0.7966	
Adjusted R-Squared			0.6871	
Durbin–Watson d-statistic (15, 41)			2.0536	
Breusch–Pagan/Cook – Weisberg test for heteroskedasticity			3.53 (p = 0.0603)	

Source: Author's computation

There was a t-value of -3.38 and an error correction adjustment coefficient of -0.0321 in the results. According to the statistically significant negative coefficient, the variables return to their long-run equilibrium at a rate of 3.21% annually after experiencing short-run disequilibrium. What this means is that the system tends to fix itself after economic shocks throw it out of whack, but it could take a while for everything to fall back into place. The calculated long-run coefficient for loans made by commercial banks to SMEs was 3.1186, with a corresponding t-value of 3.27. This study rejects the null hypothesis that loans made by commercial banks to small and medium-sized businesses do not significantly affect the value added of these businesses because the t-value is statistically significant at the 5% level. In particular, the finding suggests that small and medium-sized businesses' value-added increases by 3.12% over the long term for every 1% increase in commercial banks' lending to SMEs. Estimated coefficient for the short run was 4.4618 and t-value for the same period was 3.30,

both of which are indicative of meaningful positive correlation. This indicates that, in the near term, small and medium-sized businesses' value-added increases by 4.46% when commercial banks lend them 1% more money. All things considered, the results show that the value added by small and medium-sized businesses was positively and significantly affected by the loans made to them by commercial banks.

With a t-value of 2.46, gross fixed capital formation showed a coefficient of 5.8029 in the long term. The null hypothesis, which states that there is no significant influence of gross fixed capital formation on the value added of small and medium-scale firms in Nigeria, is rejected since the t-value is statistically significant at the 5% level. The findings demonstrate that small and medium-sized businesses' value-added increases significantly by 5.80 percent for every 1 percent increase in gross fixed capital formation. There was also a positive coefficient of 2.6899 and a t-value of 2.91 for gross fixed capital formation in the short term, which is likewise statistically significant at the 5% level. The value contributed by small and medium-sized businesses jumps by 2.69 percent when gross fixed capital formation increases by just 1 percent. In sum, the findings show that, in the long and short term, small and medium-sized businesses' value added was positively and significantly impacted by gross fixed capital creation.

With a t-value of 3.85 and a long-term coefficient for the working-age population (those between the ages of 18 and 65) calculated at 1.7379, there was statistical significance at the 5% level. So, we can reject the null hypothesis that says Nigeria's working-age population (defined as those between the ages of 18 and 65) doesn't have any bearing on the value-added of small and medium-sized businesses. This study's findings show that, in the long term, small and medium-sized businesses' value contributed increases by a substantial 1.74% when the number of working-age people grows. The working-age population's estimated coefficient in the short run was -1.5673, with a t-value of -2.84; this is significant at the 5% level of analysis. This finding disproves the null hypothesis in the short run and provides evidence that shifts in the working-age population significantly affected the value-added of small and medium-sized businesses in the short run. The results show that the working-age population affected the value-added of small and medium-sized businesses in the long run for the better, but in the short term, it had a negative effect.

There is a strong correlation between the value-added % of medium-scale firms and the subsequent period's value-added percentage, as indicated by the coefficient of the lagged medium-scale enterprises' value added (SMEVAt-1), which is 0.5642 with a t-value of 4.67.

Independent variables explained about 79.66 percent of the variation in the value added of small and medium-scale firms throughout both the long run and the short run, according to the coefficient of determination (R^2) of 0.7966. Factors outside the scope of the model account for the rest of the variation. A result of 2.0536 was obtained via the Durbin-Watson test for autocorrelation. We accept the null hypothesis that there is no autocorrelation because this value is near to 2, which means that there is no substantial autocorrelation. Also, a test statistic of 3.53 and a p-value of 0.0603 were produced by the Breusch-Pagan/Cook-Weisberg

test for heteroskedasticity. The null hypothesis of homoskedasticity is accepted since the p-value is greater than the 5% significance criterion. This means that the residual variance is constant.

Summary, Conclusion and Recommendations

Conclusion

Using the Autoregressive Distributed Lag (ARDL) model, this study investigated how loans from commercial banks affected SMEs in Nigeria. The results show that small and medium-sized enterprise (SME) output is positively affected by commercial bank loans to SMEs and gross fixed capital formation, which in turn boosts the short- and long-term contributions of retail and wholesale trade to GDP. Also, although the working-age population has a less immediate effect, it has a beneficial long-term effect on SME production. The impact of lending rates on the output of SMEs, whether in the short or long term, seems to be small. Results like these shows how critical it is to help small and medium-sized enterprises (SMEs) get the loans they need and encourage investment in capital; they also show how important it is to have policies in place to help the expanding workforce find meaningful jobs.

It is also determined that the value contributed by SMEs is driven, in the short and long term, by commercial banks' loans to SMEs and gross fixed capital formation. Although the working-age population has a negative effect in the short-term owing to labour market issues, it greatly enhances the value-added of SMEs in the long-term. In the long term, lending rates hurt the value that SMEs create, but in the short term, they barely make a difference. These results stress the importance of better alignment of labour market conditions, more capital investment, and easier access to loans for SMEs in order to encourage long-term growth and value creation.

Recommendations for Policy

It is suggested that you consider the following options:

i. Government should boost access to credit for SMEs and promote capital investment by incentivizing commercial banks to expand lending to SMEs and supporting infrastructure development.
ii. Targeted training initiatives for the working age population are also proposed to help enhance SMEs contributions of labour to SMEs value added. Policymakers should normalise loan rates to reduce their long-term detrimental effects on SMEs.

Refferences

Adejoh, M. O. (2021). Commercial bank credit to micro, small, and medium enterprises (MSMES) and economic growth in Nigeria, *Journal of Economics and Allied Research*, 24 – 34.

Adeleke, G. S., & Elumah, L. O. (2018). Deposit money banks and entrepreneurship development in Nigeria. *International Journal of Advances in Scientific Research and Engineering*, 4(9), 60 – 66.

Adewole, A. O., & Aderemi, T. (2021). Small and medium scale enterprises (SMES) financing and sustainable economic growth in Nigeria, *Journal of Accounting and Management*, 11(1), 220 – 228.

Akinadewo, I. S. (2020). Microfinance banks and growth of micro, small and medium enterprises in emerging economies: Evidence from Nigeria, *The Business and Management Review*, 11(2), 1 – 12.

Amadi, K. W., Eli, O. C., & Samuel, P. A. (2023). The role of deposit money banks on the growth of SME's in Wukari Local Government Area, Taraba State, Nigeria. *Journal of Economics, Management & Social Science*, 8(1), 25 – 42.

Aremu, O. S, Suberu, O. J., & Oke, J. A. (2016). Effective credit processing and administration as a panacea for non-performing assets in the Nigerian banking system, *The Journal of Economics*, 1(1), 53 – 56.

Aribaba, F. O., Ahmodu, A. L. O., Oladele, R., Yusuff, A. S., & Olaleye, R. B. (2019). The role of deposit money banks' loan facilities in financing small and medium-scale enterprises in Nigeria. *Academic Journal of Interdisciplinary Studies*, 8(2), 276.

Ayunku, P. E. & Eweke, G. O. (2020). Banks's credit, macroeconomic dynamics and the performance of small and medium scale enterprises in Nigeria: A non-linear ARDL approach, *European Journal of Business and Management Research*, 5(1), 1 – 7.

Chilundo, A. R. (2020). *Impact of bank loans on the performance of small and medium enterprises: A case study of Mozambique*, A Technical Paper Submitted in Partial Fulfillment of the Award of MEFMI Graduate Fellow Certificate Available at: http://mefmi.org/wp-content/uploads/2022/06/Impact-Bank_Loans_Performance_SMEs_Aquiano-R-Chilundo.pdf

Chrisostom, N., & Naho, A. (2024). Effects of commercial bank loans on SME growth: The case of Morogoro Municipality, Tanzania. *Asian Journal of Economics, Business and Accounting*, 24(10), 84 – 91.

Duru, E. E., Orji, A., Osuji, J. I., Duru-Uremadu, C. E., Isiwu, P., & Onyeanu, C. C. (2023). Analysis of commercial bank credit and SME growth nexus in Nigeria, *Journal of Xi'an Shiyou University, Natural Science Edition*, 19(8), 179 – 199.

Eboh, I. A., Aduku, E. B., & Ejiofor, S. E. (2021). Micro, small and medium-scale enterprises (MMSMES) financing and intensive growth in Nigeria, *United International Journal for Research & Technology*, 3(2), 146 – 155.

Echem, K. A., Aduku, E. B., & Ejiofor, S. E. (2021). Micro, small and medium enterprises (MSMEs) financing, employment and national economic welfare in Nigeria, *World Journal of Advanced Research and Reviews*, 15(02), 369 – 380.

Gassiah, N. & Kikula, J. (2022). Challenges small and medium enterprises (SMEs) face in acquiring loans from commercial banks in Tanzania, *African Journal of Business Management*, 16(4), 74 – 81.

Gololo, I. A. (2017). An evaluation of the role of commercial banks in financing small and medium scale enterprises (SMEs): Evidence from Nigeria. *Indian Journal of Finance and Banking*, 1(1), 16 – 32.

Hudson, I. U., Andrew, S. B., & Ibrahim, A. I. (2014). Small and medium scale enterprises and employment generation in Borno State: A study of selected SMEs in Maiduguri metropolis. *Journal of Sciences and Multidisciplinary Research, 6*(2), 144 – 157

Ikechi, K, S., & Anthony, N. (2021). Commercial bank loans and the performance of small and medium scale enterprises (SMEs) in Nigeria. *International Journal of Innovation and Economic Development*, 6(6), 46 – 59.

Ikoro, U. E., & Tochi-Ndubueze, N. B. (2024). Commercial banks' credit and performance of small and medium scale enterprises in Nigeria. *International Journal of Innovative Finance and Economics Research*, 12(1):194 – 204.

Innocent, I. O., Ademola, O. G. & Glory, E. W. (2019). Influence of bank credits on the Nigerian economy. *American Economic and Social Review*, 5(1), 1 – 9.

Invoice. (2021). *Micro, Small, and Medium Enterprises (MSMEs) in Nigeria- An overview*. Available at: https://invoice.ng/blog/msmes-in-nigeria-overview/

John-Akamelu, C. R., & Uju, M. S. (2018). The role of commercial banks in financing small & medium size enterprises in Nigeria. *European Journal of Business, Economics and Accountancy*, 6(3), 1 – 23.

Jude, E. I. & Onyekachi, O. (2018). *Evaluation of bank credit impact on the agricultural sector of the Nigerian economy*, Available at: https://aksujomas.org.ng/articles/17/06/evaluation-of-bank-credit-impact-on-the-agricultural-sector-of-the-nigerian-economy/aksujomas_02_01_07.pdf

Kanu, S. I., & Nwadiubu, A. (2021). Commercial bank loans and the performance of Small and Medium Scale Enterprises (SMEs) in Nigeria. *International Journal of Innovation and Economic Development*, 6(6), 46 – 59.

Katua, N. T. (2014). The role of SMEs in employment creation and economic growth in selected countries. *International Journal of Education and Research*, 2(12), 465 – 467.

Khan, B. (2020). Microfinance banks and its impacts on small and medium scale enterprises in Nigeria. *World Scientific News*, 141, 115 – 131.

Krokeyi, W. S., Aduku, E. B. & Anyanwu, O. C. (2021). The impact of micro, small and medium-scale enterprises (MSMES) financing on economic welfare in Nigeria, *International Journal of Intellectual Discourse (IJID)*, 4(2), 323 – 334.

Muogbo, U. S. (2018). The role of commercial banks in financing small and medium size enterprises in Nigeria. *European Journal of Business, Economics and Accountancy*, 6(3), 1 – 23.

Musa, I., & Ahmad, E. B. (2024). Empirical analysis of the impact of banking sector credit on small and medium enterprises, *International Journal of Humanities Social Science and Management (IJHSSM)*, 4(2), 1193 – 1207.

Ngong, C. A., Onyejiaku, C., Fonchamnyo, D. C. & Onwumere, J. U. (2023). Has bank credit really impacted agricultural productivity in the Central African Economic and Monetary Community?" *Asian Journal of Economics and Banking, 7(*3), 435 – 453.

Nworie, G. O., & Onochie, C. C. (2024). Fuelling entrepreneurial productivity in Nigeria: The contribution of bank loans, *International Journal of Entrepreneurship and Business Innovation*, 7(3), 92 – 109.

Ogbuji, I. A., Onwuemele, E. S., Onwuemele, E., & Bello, A. (2022). The growth impact of SMEs financing by deposit money banks in Nigeria, *UNILAG Journal of Business*, 8(1), 136 – 145.

Oguh, F. A., & Adjene, F. O. (2023). Banks' lending rates and small and medium enterprises (SMES) output growth rate in Nigeria, *Advance Journal of Banking, Finance and Investment*, 7(2), 126 – 135.

Olaoye, C. O., Adedeji, A.Q., & Ayeni-Agbaje, R. A. (2018). Commercial bank lending to small and medium scale enterprises and Nigeria economy, *Journal of Accounting, Business and Finance Research*, 4(2), 49 – 55.

Ovedje, O. H. (2024). Adequacy of funding and growth of small and medium enterprises (SMEs) in Nigeria. *International Journal of Financial Research and Business Development*.

Oyeniran, I. W., David, O. O. & Ajayi, O. (2015), SMEs and economic growth in Nigeria: An autoregressive distributed lag approach, *The Lahore Journal of Business*, 3(2), 1 – 16

Rodríguez, R. C. & Chávez, A. T. (2023). *The importance of bank credit for the economic activity in Mexico: A manufacturing sector analysis*, Available at: https://www.scielo.org.mx/scielo.php?pid=S2448-84022023000100083andscript=sci_arttextandtlng=en

Ubesie, M. C. (2017). Effect of deposit money banks' credit on small and medium scale enterprises growth in Nigeria, *International Journal of Finance and Accounting*, 6(5), 117 – 132.