Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.16, No.3, 2025


# The Relationship Between SME Funding and Economic Output in Nigeria

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**Abstract**
Capital is a necessity in the take off and survival of an enterprise as ideas can only translate into robust products and services when the right mix of resources (Financial and Non-Financial) have been rightly deployed. The capacity of Small and Medium Enterprises (SMEs) to thrive especially in a nation like Nigeria is largely dependent on capital availability and as such this paper empirically examined the relationship between SMEs funding and economic output in Nigeria. Microfinance bank loan was used as a proxy for SMEs funding while gross domestic product was used to proxy economic output. The study utilized secondary data which was compiled from various annual reports of the Central Bank of Nigeria Statistical Bulletin. The unit root test results indicated that the variables were stationary at level. Consequently, the study utilized simple regression analysis for statistical examination. The result shows that microfinance bank loan has a positive and significant relationship with gross domestic product and as such the study recommends that the stringent requirements in securing loan facility from microfinance banks need to be relaxed through the right policy framework to strongly encourage entrepreneurs to prospect and be able to secure the funds needed for their business activities which eventually will spur profit, economic output and government generated revenue through taxation.
**Keywords**: Funding, Output, Growth, Entrepreneur, Microfinance.
**DOI**: 10.7176/JESD/16-3-01
**Publication date**: May 30th 2025

## 1. Introduction

Access to finance by small and medium enterprises (SMEs) has been a major challenge that limits the Productive and expansion capacity of entrepreneurs over the years. In developing countries, the activities of SMEs have contributed to growth and resourcefulness in different sectors as factors of production are judiciously utilized for maximum returns. SMEs have contributed to the reduction in unemployment (Ene, Arikpo, Ukwuije, Sunday, Dande, & Ogola, 2023; Ogunbiyi, & Abina, 2020), their activities contribute to a nation's growth and as such, there is a sine qua non between performance of SMEs and economic output in a country where SMEs' contribution is massively felt (Anthony & Harry, 2015; Okijie, & Effiong, 2024). Activities of SMEs are prerequisites in sustaining growth in Nigeria as they provide solutions to economic problems (Anthony & Harry, 2015). A large proportion of unemployed youth involve themselves in one entrepreneurial business activity or the other. This makes SMEs to be an important contributor to reduction in unemployment in Nigeria (Taiwo, Falohun & Agwu, 2016). Employment and job creation are sustainably high in small firms in developing countries as SMEs are known to have the highest share of labour force as the activities require both capital and labor-intensive investment. Afolabi, Ekpenyong, Akomolafe and Awoyemi (2016) pointed out that inflation has contributed to the rate of default and failure of small businesses in developing countries as fluctuation noticeable with the value of money lead to a decline in SMEs profit and their contribution to economic growth. Any business that has less than two hundred employees or which total asset is less than five-hundred million naira is classified to be in the category of SMEs in the country (CBN, 2020).

There are a number of options available to SMEs as to funding sources. These include internal and external sources of fund either in the form of debt and/or equity funding. According to Mukhtar, (2009) the choice of funding available to SMEs is dependent on the alternatives at their disposal. Davis, John and Scoh (1996) pointed out that inadequate financing brings about the high rate of failure in small business. Afolabi, et al., (2016); Guiso and Minetti, (2010); Okijie and Effiong, (2024) highlighted several other factors that hamper the development of SMEs which include: access to finance, bureaucracy in government policy implementation, exorbitant operating costs, incident of multiple taxation, unfavourable environmental factors, inadequate management skill, under-capitalization, lack of access to modern technology and scarcity of raw material. All these are business problems faced by entrepreneurs and small business in the country. Moreover, Okafor, Ugwuegbe, and Ezeaku (2016) placed more emphasis on the stringent requirement imposed by the organized financial institutions before lending to SMEs. Access to finance improves business competitiveness and expansion capacity of SMEs as it provides the economic resources necessary to procure latest technology for easy and fast production of goods and services, diversification and expansion purpose. As a result of the unnecessary bureaucracy and access barriers created by government offices, entrepreneurial institutional funds

 

meant for take-off and expansion of SMEs barely reach the targeted persons (Nwakoby, Ajik & Ezejiofor (2017). SMEs are susceptible to several internal and external factors that adversely affect their capacity to access and effectively deploy funds. This paper will investigate if microfinance bank loan serves as a source of funding provision for SMEs and whether the loan disbursed has any significant relationship with economic output.

The inability of SMEs to secure the needed external capital funding (equity or debt) increases the risk of business failure, most especially those at their infant stage as it becomes difficult to scale up their business which impairs sustainability and long-term growth. Despite successive government support programs and initiatives, entrepreneurs and small business owners still find it very hard to secure loan facility for their businesses.

## 2. Conceptual Review

### 2.1.1 Source of Fund.

There are two main funding options available to SMEs, the internal and external funding sources.

**a) Internal Source of Fund.**

The internal source of fund relates to fund that arises from personal contribution obtained from the owner(s) of the business. As the name implies, it means fund that originates from the sole proprietor or partners or promoters or subscribers to the articles of a business entity. This type of fund is also known as equity financing, as this represents the sum total of shareholders' equity interest in a business. Below are a number of ways in which businesses generate fund internally:

- Savings
- Contribution from friends and family
- Retained profit/Profit Plowback
- Deferred taxation
- Inherited savings
- Debt Collection/Factoring
- Sale/Auctioning of asset
- Discounted Selling

**b) External Source of Fund.**

The external source of fund refers to monies generated from distinct outside sources (Individuals, financial institution, and corporations) that does not have initial contribution to the business but lends money to the business with the plan of repayment at a later date with one form of consideration or the other e.g. interest. The common external sources include:

- Borrowing from Financial institutions
- Crowd-funding.
- Corporation/Partnership
- Venture Capital
- Initial Public Offer (IPOs)
- Angel investors
- Hire purchase.
- Factoring

 

The external sources of fund also include various government programs and schemes initiated for the development of the informal sector of the economy. This still has not solved the difficulty faced by entrepreneurs in securing credits as they face one difficulty or the other which most often leads to the withdrawal or abandonment of their loan request as a result of government bureaucracy, corruption, nepotism and lack of transparency in the fund disbursement process.

### 2.1.2 History of Government Schemes/Programs Tailored Towards Financing SME in Nigeria.

The People's Bank of Nigeria (PBN) was established in 1988 primarily to cater for artisans and petty traders that were categorized under the informal sector of the economy, having branches in the rural and urban areas. The main purpose of this people-targeted financial institution was to increase their self-reliance. Micro-enterprise in the rural and urban areas were not left out as Community Banks (CBs) were established in 1990 to provide financial assistance to this category of businesses. SME loan obtained from the World bank by the Federal Ministry of Finance (FMF) consequently necessitated the establishment of an Apex unit. This unit helped in disbursing fund to entrepreneurs and implementation of project from time to time. In the year 1991, the Nigeria Export Import Bank (NEXIM) was primarily established to facilitate advisory services relating to export, trade finance and other matters as included in Decree 38 which lead to its establishment. The year 2000 witnessed an amalgamation of the People's Bank of Nigeria (PBN), Nigerian Agricultural and Cooperative Bank (NACB) and Family Economic Advancement Programme (FEAP) which brought about the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB), which now operates as Bank of Agriculture (BOA). Thus, the CBN and FMF, incorporated jointly, own the BOA, the problem entrepreneurs encounter in accessing institutionalized fund brought about MFB Model.

MFBs were then established with the sole aim of making fund available and accessible to entrepreneurs at low interest rate with little or no collateral requirement. In the year 2000, the Bank of Industry (BOI) was established as a result of the amalgamation of the former Nigerian Industrial Development Bank (NIDB), the Nigerian Bank for Commerce and Industry (NBCI) and the National Economic Reconstruction Fund (NERFUND) principally to provide credit to the industrial sector. Furthermore, as a result of a sharp decline in production output which was traceable to the manufacturing industry, the government identified the need to establish Small and Medium Equity Investment Scheme (SMEEIS). This scheme helped to revive the manufacturing sector as banks were compelled to contribute capital in form of equity and providing advisory services to small business. Banks were also obligated to set aside 10% of their profit to micro-enterprises (Taiwo et al., 2016). In the year 2015, the Federal Government in collaboration with the Central Bank of Nigeria (CBN) introduced the Anchor Borrowers' Programme (ABP) with the sole purpose of assisting small scale farmers, the same year also witnessed the introduction of GroFin FUND launched primarily to support business across Africa and the Middle East as they currently operate in nine countries, Nigeria inclusive.

The following year witnessed the introduction of the Presidential Fertilizer Initiative (PFI) which resulted from collaborative effort between the governments of Nigeria and Morocco. There are several other programs initiated by government to meet the financial needs of entrepreneurs and SMEs in Nigeria a few of which includes; the Presidential Economic Diversification Initiative (PEDI) initiated in the year 2017 with the primary objective of promoting new investments and facilitating easy accessibility of credit for Agro-processing. Plus, the Government Enterprise and Empowerment Programme (GEEP) scheme was established to provide interest-free loans to business owners and artisans in the country. Several other schemes also came on board such as the Subsidy Reinvestment and Empowerment Programme (SURE-P), and the Youth Enterprise with innovation in Nigeria (YOUWIN), Better Life Programme, People's Bank, National Agency for Poverty Eradication (NAPEP), the National Open Apprenticeship Scheme, the graduate job creation loan Guarantee Scheme, and Agricultural Sector Employment program and N-Power scheme. The CBN Creative Industry Fund (CIF) is another Federal Government Loan introduced in 2020 and can be accessed through the CBN. The Apex bank developed the CIF initiative in conjunction with the Nigeria Banker's Committee. This intervention fund is targeted at helping youths with businesses in fashion, entertainment, and information technology businesses (for more see, Ebitu, 2016; Eze & Okpala, 2015; Okafor et al., 2016; Oyerinde, Aina, Onajite & Olaniyi, 2019). Private empowerment programs and government scheme are still being rolled out till date. Poor management and accountability, unstable macro-economic environment, asymmetric information problem and inappropriate sustainability implementation plan are factors that contribute to the failure rate of these various schemes. Despite the several efforts taken by the government to support the growth of SMEs in the economy, entrepreneurs still do not have adequate information and necessary requirements needed to secure various loan facilities open to them even when they are available to be accessed. This is the major reason why, Ajayi, Abina, and Ijomah, (2019) affirmed that increasing the publicity of market information is essential, as it ensures the free flow of

 

information. Nwakoby et al., (2017) agreed that to a great extent government incentive schemes have greatly encouraged SMEs activity in the country.

### 2.1.3 Microfinance Banks (MFBs)

Micro Finance Bank (MFB) licenses were initially issued with the primary purpose of empowering entrepreneurs and improving the quality of life of the active poor in Nigeria. As at the time of establishment, policies developed were in favour of revitalizing the informal agricultural sector. Policies were formulated and implemented to improve how the real sector can secure and access loan facility as liquidity increased with respect to the various instruments in the money market and bureau de change (BDC) market. Apart from the financial intermediation function of MFBs, MFBs are also supportive in delivering intervention programs initiated by the CBN. The role of MFBs is dynamic as to the delivery of intervention programs as they are used as disbursement channel for government intervention funds or third-party funds, and this has helped in ensuring strict compliance with the terms and conditions guiding the use of disbursed funds. Entrepreneurs or SMEs that intend to participate in any of the intervention fund needed to approach any of the MFB office that is involved in delivering the intended program to the general public and ask for the procedures regarding the program of interest.

#### 2.1.3.1 Types of MFB in Nigeria.

The CBN prudential guideline for regulating the affairs of microfinance bank (MFB) categorized MFBs into four (4) different categories which include; Tier 1 Unit: MFBs in this unit strictly operate within five (5) local government areas in high-density areas as they are allowed to open a maximum of four apart from the head office. SMEs are allowed to source for loan facility from this Tier and the maximum amount of disbursable loan is placed at one million Naira which is applicable to the other MFBs apart from Tier 2 unit. Having satisfied the stipulated requirement in this category, the said MFB can then be transformed to State MFB. Tier 2 Unit: MFBs in this category are permitted to own just one branch aside the head office as they operate in rural areas where banking services are needed. Tier 2-unit MFB extends a maximum of five-hundred thousand Naira loan facility to SME. On fulfilling tier 1 requirement Tier 2 MFB can then be transformed to Tier 1.

The third category is the State MFB: This category of banks is officially allowed to operate and open a maximum of two (2) branches within a given Local Government Area (LGA) in a state and operational in the first year with not more than ten (10) branches. Opening of branches is subjected to the approval of CBN in a case where the demand for MFB in a particular LGA is high and there is need to open more than two (2) branches then the CBN gives a condition of which the said MFB need to have already establish at least one cash or branch centre in every LGA of the proposed state. In a situation where the State MFB wants to into National MFB, it needs to have at least five (5) branches in her originating state head office and also fulfill other requirement stipulated by CBN from time to time. The fourth category is the National Microfinance Bank: This bank is legally authorized to begin operation with a minimum of one (1) but not more than Ten (10) branches (for more, see CBN 2020).

## 2.2 Theoretical Review

**2.2.1 Loanable Fund Theory:** This theory is attributed to the work of Keynes, (1937) and that of Robertson, (1940) and Hicks, (1942). This theory pointed out the interaction between the supply of fund, demand for fund and interest rate in the classical market as market forces determining the interest rate to be charged on the fund. On the other hand, the suppliers of fund are not left out, as they include individuals, businesses, government and institutions who postpone their immediate consumption for a later date and as such make it available for financial institution which makes it possible for investment to take place. The deficit unit thus sources for loan from the financial market for expansion purpose, purchase of inventory and equipment as they consider the time frame, interest rate and alternatives in their decision making.

**2.2.2 The Orthodox Theory of Financial Intermediation:** In this theory, efficiency is achieved in the financial system when borrowers and lenders are connected, leading to the efficient allocation of scarce resource. The orthodox theory recognizes the role of financial institution in bridging the gap identified between deficit and surplus unit in the economy. This gap is bridged by linking surplus saving unit (SSU) with deficit spending unit (DSU) in one financial market.

The aforementioned theories served as the theoretical foundation upon which the model in this paper is built as additional fund is sourced from MFBs by SMEs, entrepreneurs and micro-enterprise for different purpose.

 

### 2.3 Empirical Review

The intense competition in the external environment in which SMEs are situated is changing tremendously and as such Ene, Arikpo, Ukwuije, Sunday, Dande, and Ogola (2023); Ogunbiyi and Abina (2020) discovered that easy access to financing options has led to an increase in the income of SMEs, created employment and helped in the reduction of poverty in the country. Anthony and Harry, (2015) examined financial innovation and performance of SMEs. The study extensively reviewed relevant literature with descriptive analysis on the subject matter, the study recognizes the irreplaceable nature of SMEs and that its importance will be enormously felt if there is improvement in crowdfunding available to SMEs. With respect to the findings of Anthony and Harry, (2015) and that of Widuto, (2014) which pointed out that financing SMEs through crowdfunding has a high-risk level which includes, donor exhaustion, infringement on intellectual property, project default, cyber-attack and platform failure or closure rights etc. all of which hinders SMEs from exploring crowdfunding financing options. Afolabi et al., (2016) examined how finance options accessible to SMEs affect economic growth of Nigeria. It was deduced from the vector autoregressive model result that an increase in the amount of credit availability to SMEs is prompted by an increase in interest rate charged by financial institutions. Taiwo et al., (2016) reported that for business activities to be doable, bottle necks that hinders fund to be accessible need to be checked by engaging professionals in loan disbursement and policy formation, government also needs to improve on the provision of electricity. Okafor et al., (2016) explored the nexus between SMEs and growth in Nigeria economy. The regression analysis carried out showed a positive contribution is achievable both in the short and long run, the study thus suggests that for SMEs to contribute substantially to growth there is need for an increase in annual budgetary allocation to SMEs in the country. Kemi, (2014) placed more emphasis on personnel development in terms of training, seminars and orientation program as these is needed for entrepreneurs to be self-reliant. Nwakoby et al., (2017) investigated SMEs and government financing in Nigeria, the regression analysis result revealed that government loans and incentive schemes have greatly contributed to SMEs output as entrepreneurs improve on their sources of income generation thus, creating employment for the unemployed.

## 3.0 Method of Data Analysis

### 3.1 Research Design

The ex-post facto research design is used in this study as it is particularly effective in explaining long time series data. This design involves analyzing existing data to identify causal relationships, making it well-suited for retrospective examination of events or phenomena. By using ex-post facto design, the study can take advantage of historical data to uncover patterns and trends over an extended period.

### 3.2 Source of Data

Secondary data on gross domestic product and MFB loan between the period 1992-2023 were extracted from Central Bank of Nigeria (CBN) Annual Reports and statistical bulletin will be used for the purpose of this research.

### 3.3 Method of Data Analysis

#### 3.3.1 Descriptive Analysis

The descriptive analysis in this study helps us to describe the nature of the time series data on Gross Domestic Product (GDP) and Microfinance Bank (MFB) loans between the period 1992-2023. This analysis involves summarizing the main features of the data, providing a clear understanding of its overall structure and key characteristics. By examining measures such as mean, median, variance, and standard deviation, we gain insights into the central tendencies and dispersion of the GDP and MFB loan data. This foundational analysis sets the stage for more advanced statistical testing and modeling, ensuring a comprehensive understanding of the economic trends over the specified timeframe.

#### 3.3.2 Unit Root Test

In order to ascertain the stationarity of the data, a stationarity test was conducted on the time series using the Phillips-Perron (PP) test. The purpose of this test is to check whether the time series data is stable over time, which means that its statistical properties such as mean, variance, and autocorrelation remain constant. The Phillips-Perron test is particularly useful because it accounts for potential issues such as autocorrelation and heteroscedasticity in the residuals. By applying this test, we can determine if the data is suitable for further time series analysis or if it requires differencing to achieve stationarity. The results from the PP test help in identifying the appropriate models and methods for accurate forecasting and analysis.

#### 3.3.3 Regression Analysis

Regression analysis is utilized in this paper for statistical analysis, aiming to explore the relationship between the predictor and predicted variables in the study. Specifically, simple linear regression analysis will be utilized to

 

analyze the model described below. This method is chosen because it effectively identifies and quantifies the linear relationship between the independent variable (predictor) and the dependent variable (predicted). By applying simple linear regression, we can determine how changes in the predictor variable influence the predicted variable. The analysis involves calculating the regression equation, which provides a clear mathematical representation of this relationship. The P-value also known as probability value will be used for acceptance or rejection of hypothesis. If P-Value is less than 0.05 (5%) confidence interval we reject the null hypothesis and vice versa. Other key indicators such as R-Square will also be analyzed to buttress the analysis, E-views software is used to carry out the proposed analysis.

### 3.4 Model Specification

Incorporating the Orthodox Theory of Financial Intermediation and the Loanable Fund Theory, the model formulated by Yahaya and Kolawole (2022) is adopted, Hence, the resulting model is as follows:

$X = f(Y)$ (1)

**Functional Model**

$GDP_t = f(MFBL_t)$ (2)

**Mathematical Model**

$GDP_t = \sigma_0 + \sigma_1 MFBL_t$ (3)

**Econometric Model**

$GDP_t = \sigma_0 + \sigma_1 MFBL_t + \mu_t$ (4)

**Apriori Expectation** $\sigma_1 > 0$.

From the theoretical underpinning in this paper, micro finance bank loan (MFBL) is expected to increase economic output (GDP).

**Where:**

Gross Domestic Product = GDP
Microfinance Bank Loan = MFBL
Constant = $\sigma_0$
Variable Parameter = $\sigma_1$
Error term = $\mu_t$
Time Series = t

## 4.0 Analysis and Interpretation of Findings.

### 4.1 Descriptive Statistics

Below represents output result for various analysis, which is displayed in different tables below.

**Table 1. Descriptive Result**

| | GDP | MFBL |
|---|---|---|
| **Mean** | 60744.01 | 91025.40 |
| **Median** | 36076.63 | 35628.95 |
| **Maximum** | 229912.3 | 354548.5 |
| **Minimum** | 909.8000 | 135.8000 |
| **Std. Dev.** | 64805.21 | 113125.2 |
| **Skewness** | 1.035428 | 1.040986 |
| **Kurtosis** | 3.067979 | 2.643281 |
| | | |
| **Jarque-Bera** | 5.724088 | 5.949142 |
| **Probability** | 0.057152 | 0.051069 |
| | | |
| **Sum** | 1943808. | 2912813. |
| **Sum Sq. Dev.** | 1.30E+11 | 3.97E+11 |
| | | |
| **Observations** | 32 | 32 |

**Source: E-Views 13, Output.**

**Analysis**

The data consists of 32 observations, representing annual data points over a period of 32 years. A dataset spanning 32 years provides a comprehensive view of the long-term trends and influences of SME funding on economic output. The period covered include different economic regimes, policy shifts, and external economic

 

conditions, offering insights into how these factors influence the relationship between SME funding and economic output. The mean GDP is ₦60,744.01 billion, while the median is ₦36,076.63 billion. For MFBL, the mean is ₦91,025.40 billion, and the median is ₦35,628.95 billion. The mean GDP is significantly higher than the median, indicating the presence of a few high values skewing the average upward. Similarly, the mean MFBL is substantially higher than the median, suggesting the presence of some very large loans. This higher mean compared to the median for both GDP and MFBL suggests periods of significant economic growth and substantial funding injections. These outliers might be due to particular years with exceptional economic performance or large-scale funding initiatives. The discrepancy between mean and median highlights the variability and potentially uneven distribution of economic activity and funding, which can be typical in an emerging economy like Nigeria's, where certain sectors or regions receive disproportionate investments.

The maximum GDP is ₦229,912.3 billion, and the minimum is ₦909.8 billion. For MFBL, the maximum is ₦354,548.5 billion, and the minimum is ₦135.8 billion. The wide range between the maximum and minimum values for both GDP and MFBL indicates significant fluctuations over time. This wide range suggests periods of high volatility in economic output and SME funding. This could be due to various factors such as changes in government policy, international oil prices and macroeconomic stability. The wide range also reflect different phases of economic and financial sector development, including reforms and liberalization efforts that could have led to periods of substantial growth and high funding availability.

The standard deviation for GDP is ₦64,805.21 billion, and for MFBL, it is ₦113,125.2 billion. The high standard deviation in both GDP and MFBL further confirms the presence of significant variability in economic output and SME funding. High standard deviation could be due to differences in economic performance across various sectors and regions within Nigeria, where some areas might experience rapid growth while others lag. Nigeria’s economy is heavily influenced by external shocks, especially oil price fluctuations. Such shocks can cause significant variations in economic output and funding levels, contributing to high standard deviation.

The skewness for GDP is 1.035428, indicating it is positively skewed, and the kurtosis is 3.067979, suggesting it is leptokurtic and close to a normal distribution. For MFBL, the skewness is 1.040986, also positively skewed, and the kurtosis is 2.643281, indicating it is platykurtic and less peaked than a normal distribution. Both GDP and MFBL are positively skewed, indicating that the data have a long tail to the right. The kurtosis values suggest that GDP distribution is closer to normal, while MFBL has a relatively flatter distribution. The positive skewness indicates that there are years with exceptionally high GDP and MFBL values, possibly due to significant economic booms or large funding initiatives. This could be due to major policy changes, international investments, or favorable global economic conditions. The nearly normal kurtosis for GDP suggests a relatively consistent pattern of economic output with occasional high values. In contrast, the flatter distribution of MFBL indicates more frequent extreme values in funding, pointing to irregular and substantial funding inflows possibly from specific policy interventions or international funding.

The Jarque-Bera test results for GDP are 5.724088 with a probability of 0.057152, and for MFBL, the results are 5.949142 with a probability of 0.051069. The Jarque-Bera test results for both GDP and MFBL are close to the 0.05 threshold, indicating that the distributions are not significantly different from normal at the 5% level, but they are marginally close. The near-normal distribution of GDP and MFBL suggests that, despite some outliers and variability, the overall distribution of economic output and SME funding is relatively stable over time. This can be indicative of underlying economic stability, despite external shocks and policy changes. For policymakers, the near-normal distribution implies that interventions to support SME funding and economic growth are having a generally consistent impact, although attention is needed for the outlier periods.

The sum of GDP is ₦1,943,808 billion, and the sum of MFBL is ₦2,912,813 billion. The sum of squared deviations for GDP is 1.30E+11, and for MFBL, it is 3.97E+11. The total sums and sums of squared deviations highlight the aggregate levels and variability over the period under study. The large aggregate sums for both GDP and MFBL reflect substantial economic activity and significant amounts of funding channelled into SMEs over the study period. This underscores the critical role of SME funding in driving economic output. The high sums of squared deviations suggest areas where there has been significant variability, highlighting the need for targeted policies to stabilize and evenly distribute economic growth and funding.

 

### 4.2 Unit Root Test

The results of the Phillips-Perron unit root test are important because they provide useful information about the behaviour of the variables over time. Understanding how a variable is connected to its past values is crucial for building an effective model. It helps us choose the right tools and techniques for analyzing the data accurately.

**Table 2: Presentation of Unit Root Test Result**

| Variables | Phillips-Perron Test Statistic | Critical Values | Order of Integration | Prob. |
|---|---|---|---|---|
| GDP | -4.104242 | 1% level = -4.284580<br>5% level = -3.562882<br>10% level = -3.215267 | I(0) | 0.0000 |
| MFBL | -3.488572 | 1% level = -2.644302<br>5% level = -1.952473<br>10% level = -1.610211 | I(0) | 0.0011 |

**Source: Authors compilation from E-Views 13, Output.**

**Analysis**

The Phillips-Perron (PP) unit root test results for the variables GDP and MFBL provide important insights into their stationarity properties, which are critical for econometric modeling and analysis. The test statistic for GDP is -4.104242, which is significantly lower than the critical value at the 5% level (-3.562882). This result indicates that the null hypothesis of a unit root can be rejected for GDP, suggesting that the GDP series is stationary at level, denoted as I(0). Similarly, the test statistic for MFBL is -3.488572, which is also lower than the critical value at the 5% level (-1.952473), leading to the rejection of the null hypothesis of a unit root for MFBL as well. Thus, MFBL is also stationary at level, denoted as I(0). The stationarity of GDP implies that the economic output, as measured by GDP, does not exhibit a unit root and therefore does not have a stochastic trend. This stationarity means that shocks to GDP are likely to be temporary and that the series will revert to its mean over time. From an economic perspective, this suggests a degree of resilience in the Nigerian economy where temporary disturbances do not have permanent effects, indicating a stable long-term economic environment. This is crucial for policymakers and investors as it implies predictability and stability in economic planning and forecasting. For MFBL, the stationarity result indicates that the levels of microfinance bank loans do not follow a random walk and that any deviations from the mean are temporary. This suggests that the funding available to SMEs through microfinance banks is stable over time and is not subject to permanent shocks. Economically, this stability in SME funding is vital for sustained economic growth, as it ensures that SMEs, which are significant drivers of economic activity and employment in Nigeria, have consistent access to financial resources. This consistency allows SMEs to plan and invest in long-term projects, contributing to overall economic stability and growth.

### 4.3 Regression Analysis

**Table 3. Simple Regression Analysis Result**

Dependent Variable: GDP
Method: Least Squares
Date: 05/25/24 Time: 17:43
Sample (adjusted): 1998 2023
Included observations: 26 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 564.3779 | 1214.485 | 0.464705 | 0.6463 |
| MFBL | 0.310352 | 0.007612 | 40.77140 | 0.0000 |

| | | | |
|---|---|---|---|
| R-squared | 0.985768 | Mean dependent var | 35260.03 |
| Adjusted R-squared | 0.985175 | S.D. dependent var | 36286.85 |
| S.E. of regression | 4418.256 | Akaike info criterion | 19.69868 |
| Sum squared resid | 4.69E+08 | Schwarz criterion | 19.79546 |
| Log likelihood | -254.0829 | Hannan-Quinn criter. | 19.72655 |
| F-statistic | 1662.307 | Durbin-Watson stat | 1.766429 |
| Prob(F-statistic) | 0.000000 | | |

**Source: E-Views 13, Output.**

 

**Analysis**

**Result Analysis**

The proportion of the chosen explained variable is captured by the value of R-Square in the trend line model. The R-squared value of 0.985768 indicates that approximately 98.58% of the variability in GDP is explained by variations in MFBL, suggesting a very strong explanatory power of the model. The adjusted R-squared value of 0.985175, slightly lower than the R-squared, still confirms the model's robustness. The constant term (C) has a coefficient of 564.3779 with a p-value of 0.6463, indicating it is not statistically significant. This lack of significance implies that, without considering MFBL, the intercept alone does not explain much of the variation in GDP. The Durbin-Watson statistic of 1.766429 is close to the ideal value of 2, suggesting no significant autocorrelation in the residuals, further supporting the reliability of the regression results.

Microfinance bank loans (MFBL) have a positive (382.7491) and significant relationship (p-value of 0.0001) with gross domestic product. Thus, the study therefore rejects the null hypothesis and accept the alternate hypothesis since the calculated p-value is lesser than 0.05 (5%) confidence level.

**Coefficients and Statistical Significance:**

Based on the simple linear regression analysis in Table 1 above, it can be deduced that significant relationship exists between SME funding, proxied by Microfinance Bank Loans (MFBL), and economic output, proxied by Gross Domestic Product (GDP). Table 1 above, it can be deduced that the coefficient for MFBL is 0.310352, with a t-statistic of 40.77140 and a p-value of 0.0000, indicating a highly significant positive influence of MFBL on GDP. This suggests that an increase in microfinance loans is associated with an increase of about 0.310352% in GDP, thereby affirming the apriori expectation. This result highlights the crucial role of SME funding in driving economic growth in Nigeria. Consequently, SMEs play a vital role in the Nigerian economy by fostering innovation, creating jobs, and promoting inclusive growth. These findings underscore the importance of enhancing access to microfinance loans for SMEs to stimulate economic development and ensure sustainable growth. Effective funding through microfinance enables these enterprises to expand operations, invest in new technologies, and increase productivity, thereby contributing to overall economic growth.

### 4.4 Serial Correlation Test.

The Breusch-Godfrey Serial Correlation LM Test is used to detect the presence of serial correlation (autocorrelation) in the residuals of a regression model**.**

**Table 4: Breusch-Godfrey Serial Correlation LM Test Result.**

| Breusch-Godfrey Serial Correlation LM Test: | | | |
|---|---|---|---|
| F-statistic | 2.392314 | Prob. F(2,22) | 0.1148 |
| Obs*R-squared | 4.644467 | Prob. Chi-Square(2) | 0.0981 |

**Source: E-Views 13, Output.**

**Analysis**

The Breusch-Godfrey Serial Correlation LM Test results presented in Table 4 provide information on the presence of serial correlation in the residuals of the regression model. Serial correlation, or autocorrelation, refers to the correlation of a variable with its past values and can be problematic in time series analysis, as it may indicate model misspecification or the presence of omitted variables. The test results include two key statistics: The F-statistic and the Obs*R-squared statistic, along with their corresponding probabilities. The F-statistic value is 2.392314, with a p-value (Prob. F(2,22)) of 0.1148. This p-value is above the conventional significance level of 0.05, indicating that we fail to reject the null hypothesis of no serial correlation at the 5% significance level. This suggests that there is no evidence of significant serial correlation in the residuals based on this F-test. The Obs*R-squared statistic is 4.644467, with a p-value (Prob. Chi-Square(2)) of 0.0981. Similar to the F-statistic, this p-value is also above the 0.05 threshold but slightly below the 0.10 threshold, suggesting that there is weak evidence against the null hypothesis of no serial correlation. While it is not significant at the 5% level, it is close to being significant at the 10% level. The results of the Breusch-Godfrey Serial Correlation LM Test indicate that there is no strong evidence of serial correlation in the residuals of the regression model, the absence of serial correlation suggests that the model's residuals are approximately independently distributed over time, which is a desirable property for reliable statistical inference. For economic analysis, the absence of significant serial correlation implies that the relationship between SME funding (proxied by MFBL) and economic output (proxied by GDP) is well-captured by the model without the need for additional lagged variables to account for autocorrelation.

 

**Discussion of findings**

**Relationship Between Microfinance Bank Loan (MFBL) and Gross Domestic Product (GDP):** From the linear regression result displayed in the table above depicted that for every one unit increase in MFBL, there is a corresponding contribution of about 0.310352% to economic output and as such, accept our apriori expectation. It can also be observed from the output result of the p-value 0.0000, that substantial relationship exists between MFBL and GDP. The positive relationship is attributed to high volume of credit disbursed to financing SME activities which eventually lead to an increase in household income, standard of living and demand for local goods as such, contributes to economic growth. Judging from the result, it can also be deduced that the contribution of SMEs to economic growth will eventually lead to a decline if the policies that guides micro-finance bank operation does not stand the test of time. Despite the credit given to SMEs by micro-finance banks, there is a need for supplementary effort from think tanks, non-governmental organizations (NGOs) as to providing SMEs with technical and financial management support.

**Result Implications**

When making decision about how to secure additional fund to expand business activity or to facilitate production process, there is a need to adequately consider the various choices available in terms of accessibility, availability, interest rate and duration of capital repayment. This paper pointed out that for entrepreneurs, all these factors were considered before establishing the bank that helps them in securing additional fund. The positive and significant relationship identified agrees with the finding of Aminu, Adamu and Ibrahim (2018) and that of Nalini, Alamelu, Amudha and Motha (2016).

## 5.0 Summary, Conclusion and Recommendation

### 5.1 Summary

This paper empirically investigated the relationship between SME funding and economic output in Nigeria. The role SMEs play in the development process cannot be over-emphasized, it is therefore important to examine how microfinance banks have been helpful in providing SMEs with the needed funds to kick start and expand their business operations. This paper proxied microfinance bank loan (MFBL) as the independent variable while gross domestic product was used to proxy economic output in Nigeria as the dependent variable. Time series data was extracted from Central Bank of Nigeria annual report for the year 1992-2023 on the chosen variable. The time series data were subjected to various empirical tests, including descriptive statistics, stationarity tests, regression analysis, and serial correlation tests, to ensure the reliability of the findings. In summary, the descriptive statistics reveal significant variability and growth in both economic output and SME funding in Nigeria, highlighting the importance of consistent and targeted policies to harness the potential of SMEs for sustainable economic development. While the PP unit root test results show that both GDP and MFBL are stationary at their levels. This stationarity implies that both economic output and SME funding are stable over time, with temporary deviations rather than permanent changes. This stability is beneficial for economic planning and policy formulation, providing a predictable environment for investment and growth in Nigeria. Having affirmed that GDP and MFBL are stationary at levels, the study further made use of E-views software to run regression analysis to investigate the influence of MFBL on GDP, it was discovered from the regression result that MFBL contributes substantially to the economic output of the country. Entrepreneurial activity is been promoted as local resources are judiciously utilized in production process and in doing this employment opportunity arises which in turn contributes to economic output in the country. Finally, the Breusch-Godfrey Serial Correlation LM Test results presented in Table 4 indicate the absence of serial correlation, suggesting that the model's residuals are approximately independently distributed over time. This is a desirable property for reliable statistical inference.

### 5.2 Conclusion

The simple regression analysis deduced a strong positive relationship between these variables. The regression results indicate that increases in SME funding significantly boost GDP, highlighting the crucial role of microfinance in promoting economic growth. Thus, policies that enhance SME funding through microfinance are likely to have substantial positive effects on Nigeria's economic growth, supporting innovation, job creation, and overall economic development. Therefore, enhancing microfinance initiatives could be a key strategy for sustaining and accelerating economic growth in Nigeria.

### 5.3 Recommendation

Since the primary reason for establishing MFBs is to cater for the financial need of small businesses in the country, and as such the study therefore recommends that in choosing from financing sources available to SMEs there is a need to quantitatively analyze the benefit and drawback that might be encountered as this will help to

 

mitigate default risk attached to the selected choice. SMEs need to be given relevant support from the public and private sectors as this will help in the sustainability of small businesses in the country. The stringent requirements in securing loan facility from banks need to be relaxed to a reasonable extent. This will enable entrepreneurs to secure the funding needed for business activities which will eventually spur profit, output, government generated revenue and growth in the economy. Policies need to be developed to encourage entrepreneurial innovation in different sectors as this will improve productivity and innovative spirit which consequently will reduce the menace of unemployment. The paper also suggested that if fundamental macroeconomic policies are put in place as to control macro-economic variables most especially inflation, then SMEs contribution to the economy will be greatly appreciated as it will deeply spur economic growth.

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