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Microfinance Institutions and Entrepreneurship Development in Nigeria

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Abstract

With an emphasis on how microfinance services support business expansion, financial inclusion, and economic development, this study investigated the connection between microfinance institutions (MFIs) and the growth of entrepreneurship in Nigeria. Utilizing time series data from the National Bureau of Statistics (NBS), World Bank publications, and the Central Bank of Nigeria (CBN) Statistical Bulletin, the study used the Autoregressive Distributed Lag (ARDL) model to estimate both short- and long-term relationships and the Phillips-Perron test to evaluate stationarity. A long-term cointegrating link between the variables was validated using the boundaries test. According to the research findings, microfinance credits have a major positive impact on the development of entrepreneurship, whereas microfinance deposits have a short-term but long-term positive impact on entrepreneurship. While the short-term effects were large, the long-term benefits of the number of microfinance bank branches were negligible. Furthermore, GDP growth and inflation both have major

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long-term effects on the rise of entrepreneurship, with inflation having a short-term detrimental effect on the ease of doing business. By enhancing financial access, lowering transaction costs, encouraging business formalization, and fostering the expansion of micro, small, and medium-sized businesses (MSMEs), MFIs are a vital driver of entrepreneurship development in Nigeria, according to the study's findings. Nonetheless, inflation, in particular, and other macroeconomic instability can stifle entrepreneurship. In order to manage inflation, the report suggests expanding the number of microfinance bank branches, particularly in rural and semi-urban areas, as well as implementing coordinated fiscal and monetary policies. To promote inclusive, sustainable entrepreneurship and make doing business in Nigeria easier, the microfinance industry must be strengthened in conjunction with prudent macroeconomic management.

Keywords: Microfinance Institutions (MFIs), Entrepreneurship Development, Financial Inclusion, Economic Growth, Autoregressive Distributed Lag (ARDL) Model.

Introduction

Small businesses are essential to the economic growth of countries, especially in developing nations like Nigeria, where they greatly reduce poverty, create jobs, and generate income (World Bank, 2023). It is commonly acknowledged that entrepreneurship is a driving force behind innovation, industrialization, productivity gains, and long-term economic expansion (Schumpeter, 1934; World Bank, 2023). In order to solve enduring socioeconomic issues such as poverty, unemployment, and a structural reliance on outside economies, Nigeria has strategically positioned entrepreneurship as a policy tool (Central Bank of Nigeria [CBN], 2022; NBS, 2023). Therefore, a key component of Nigeria's goal for equitable growth and development continues to be the development of small and medium-sized businesses (SMEs).

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Traditional informal financial systems like cooperative societies, family contribution plans, and rotating savings and credit associations (ROSCAs) gave rise to microfinance in Nigeria (Ogujiuba & Jumare, 2013). The creation of Microfinance Banks (MFBs), which are governed by the Central Bank of Nigeria (CBN), later marked the sector's shift into a formalized structure. A major step in institutionalizing microfinance activities in the nation was taken in 2005 with the adoption of the Microfinance Policy, Regulatory and Supervisory Framework. Promoting grassroots entrepreneurship, increasing credit availability for marginalized groups, and improving financial inclusion were the goals of the policy (Enhancing Financial Innovation and Access, 2023; Adepetun, 2024). With 729 licensed MFBs functioning at the national, state, and unit levels as of the end of 2024, Nigeria had experienced significant institutional expansion (Guardian Nigeria, 2024).

Nigeria still faces serious socioeconomic problems in spite of its growth. Significant differences still exist even though financial inclusion increased to roughly 64% in 2023, especially in rural areas where formal financial services are still hard to come by (Enhancing Financial Innovation and Access, 2023). Additionally, poverty rates are still startlingly high. In 2023, over 63.5% of Nigerians were below the lower-middle-income poverty line, and over 75% of them lived in rural areas, according to the World Bank (World Bank, 2024; 2025). These figures highlight how urgent it is to improve financial intermediation systems that might encourage entrepreneurship and lower poverty.

One of the biggest obstacles to the growth of entrepreneurship in Nigeria is still access to financing (Ubom, 2003). Micro and small business owners are often excluded from formal credit markets by commercial banks' strict collateral requirements, exorbitant interest rates, and convoluted loan processes (Parker, 2006). As a result, microfinance institutions (MFIs) have become alternative financial intermediaries that offer low-income entrepreneurs payment, insurance, savings, and microcredit services (Otero, 2000). In addition to financial intermediation, MFIs provide social intermediation services such business advising help, financial literacy training, and group-based financing methods that improve the sustainability of enterprises (Ledgerwood, 1997).

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Microfinance and the growth of entrepreneurship are positively correlated, according to empirical research. While Copestake et al. (2001) find increases in household income and business performance linked to microfinance participation, Amin, Rai, and Topa (2003) show that microfinance improves access to credit among vulnerable groups. Additionally, microfinance boosts business productivity and operational sustainability, according to Evans and Adams (1999). Microfinance is anticipated to fill funding gaps and promote entrepreneurial growth in Nigeria, as SMEs are the foundation of economic development through innovation and job creation (Mahmoud, 2005; Muhanna, 2007).

Existing research, however, identifies a number of shortcomings. Numerous research are primarily cross-sectional in nature and geographically restricted to particular states, which restricts their generalizability and prevents them from capturing long-term effects. Additionally, fewer studies combine institutional efficiency, financial inclusion, entrepreneurial sustainability, innovative capability, and macroeconomic outcomes into a single analytical framework, whereas some studies concentrate on operational efficiency or financial access. Nigeria still has high rates of unemployment, poverty, and low entrepreneurial viability despite the growth of microfinance institutions and advancements in financial inclusion. Access to reasonably priced finance is still limited, especially for low-income and rural business owners. Despite being widely accepted as a strategic tool for fostering entrepreneurship, empirical data regarding microfinance's long-term effects on company sustainability, innovation, and inclusive growth is still dispersed and concentrated in certain geographic areas. This study examines how microfinance institutions affect entrepreneurship development in Nigeria, focusing on the ease of doing business (EDB) index, which the World Bank discontinued in 2000 due to computation errors. For continuity and analysis, EDB data were interpolated from 2000–2024.

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2. Literature Review

Conceptual Clarification

Entrepreneurship Development

According to Muhanna (2007), entrepreneurship development is the process of improving people's abilities, knowledge, and skills to recognize, generate, and seize business opportunities in order to launch or grow businesses. It entails encouraging the creativity, risk-taking, resource mobilization, and managerial skills necessary to maintain successful corporate endeavors. Beyond the expansion of individual businesses, entrepreneurial development creates jobs, lowers poverty, creates wealth, and helps society as a whole undergo economic change. Economic growth, industrialization, and inclusive development in Nigeria are all acknowledged to be significantly influenced by the emergence of entrepreneurship (Ubom, 2003). Government programs like the National Directorate of Employment (NDE), the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), and microfinance support programs aim to encourage entrepreneurship by expanding access to capital, offering advisory services, and facilitating training (Mahmoud, 2005; Ubom, 2003).

Small and medium businesses (SMEs) in Nigeria continue to confront obstacles such as restricted access to financing, insufficient capital, and a lack of entrepreneurial skills, even in spite of these measures. These limitations frequently impede SMEs' ability to expand, remain sustainable, and be productive, underscoring the necessity of focused interventions like microfinance organizations to support grassroots entrepreneurial development.

The process of improving people's entrepreneurial abilities, knowledge, and skills so they can recognize business opportunities, launch and run businesses, and support economic growth and development is referred to in this study as entrepreneurship development (ED).

Microfinance Institutions

Microfinance institutions (MFIs) provide small-scale credit, savings, insurance, and payment services to underserved groups (Ledgerwood, 1997; Otero, 2000). They focus on low-income workers, micro-entrepreneurs, and informal sector operators to

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promote economic empowerment, financial inclusion, and poverty reduction. MFIs operate through financial intermediation (loan, saving, and credit) and social intermediation (client confidence-building, group formation, training, and financial literacy). These services foster entrepreneurship, self-reliance, and small businesses. Nigerian MFIs were founded to include marginalized populations in the financial system and fund MSMEs (Rai, 2016). In addition to microfinance banks, Nigerian MFIs operate in cooperative societies and non-governmental organizations and facilitate capital access. These organizations boost local economic activity, startup growth, and empowerment of low-income people that cannot afford bank collateral.

Microfinance Institutions and Entrepreneurship

Microfinance institutions (MFIs) help micro-entrepreneurs with financial and non-financial support, which boosts entrepreneurship. Insurance, savings plans, and microloans help business owners expand production, buy inputs, invest in operations, and manage risks. These financial interventions fill the gap left by limited access to regular banking services, especially for low-income workers and disorganized enterprises. Non-monetary services from MFIs increase entrepreneurial skills in addition to financial aid. These help entrepreneurs run and sustain their enterprises. Business management, financial literacy, confidence-building, and peer-based learning are examples (Ledgerwood, 1997; Reeves & Sabharwal, 2013). MFIs improve MSMEs' access to credit and entrepreneurial skills. This increases household income, jobs, and inclusive socioeconomic growth (Muhanna, 2007). Nigeria needs MFIs to boost economic growth and grassroots entrepreneurship. They help those who cannot meet commercial bank collateral requirements to improve financial inclusion and enable excluded groups to participate in the economy (Ubom, 2003; Rai, 2016). These efforts help microfinance organizations promote entrepreneurship, reduce poverty, and promote equitable and sustainable growth countrywide.

Theoretical Literature

This study uses Financial Intermediation Theory, the Microfinance Theory of Poverty Alleviation, and Schumpeter's Theory of Entrepreneurship to explain how MFIs foster entrepreneurship. Financial Intermediation Theory (Gurley & Shaw, 1960; Goldsmith, 1969; Diamond, 1984) explains how financial institutions use surplus savings to invest

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in deficit units, improving resource allocation and economic efficiency. Microfinance banks in Nigeria mobilize deposits and lend credit to micro and small entrepreneurs who are excluded from regular banking due to collateral and documentation requirements. According to the Microfinance Theory of Poverty Alleviation (Yunus, 1976; Ledgerwood, 1997; Morduch, 1999; Otero, 2000), inclusive finance is especially important for low-income and vulnerable groups. Microfinance organizations provide credit, savings, insurance, and social services like financial literacy training and group-based financing to enable people to work and eliminate poverty.

Schumpeter's Theory of Entrepreneurship (1934) defines entrepreneurs as innovators who drive economic growth through novel resource combinations, products, markets, and manufacturing processes. In this integrated framework, microfinance provides financial and institutional support, and entrepreneurs innovate to build enterprises, create jobs, and boost economic growth. Financial intermediation enables effective capital allocation, microfinance empowers inclusivity, and entrepreneurship turns financial resources into productive and innovative activity. These theories explain how microfinance institutions might boost entrepreneurship, reduce poverty, and improve Nigeria's economy.

Empirical Literature

Saka et al. (2025) explored how microfinance institutions (MFIs) affect MSMEs in Nigeria and Sub-Saharan Africa. The study used Financial Intermediation Theory to examine whether institutional efficiency in Microfinance Banks (MFBs) leads to efficient credit distribution and company growth. A purposive multi-stage sampling method selected 18 MFBs from six Southwestern states. The primary data was acquired through standardized questionnaires (98% response rate), bank records, and national statistics. Stochastic Frontier Analysis (SFA) showed operational inefficiencies that hindered microcredit distribution and MSME sustainability. The study found that MFI operational efficiency is essential for business growth and inclusive economic resilience.

Onyekwelu et al. (2023) examined how entrepreneurial institutions improve microfinance and enterprise sustainability in Nigeria. A descriptive survey design was

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used to give structured questionnaires to 711 Delta State NYSC members. An SPSS regression study demonstrated that strong entrepreneurial institutions increase microfinance access and business sustainability. The study suggested institutional reform to boost productivity and long-term entrepreneurship. From time series data and an Error Correction Model (ECM), Ochonogor (2021) examined MFI performance and economic progress in Nigeria. After validating cointegration, OLS was utilized for long-run estimation. Microfinance loans are positively correlated with the Human Development Index (HDI), demonstrating that they improve welfare, social capital, and economic progress. The report advised the CBN to increase policy support and intervention financing.

Muogbo and Obamuyi (2018) examined how microfinance institutions affect Anambra State entrepreneurship. Pearson correlation and ANOVA were used to evaluate 192 valid replies in a descriptive study. Although funding is limited, microfinance banks greatly boost entrepreneurial growth. To encourage true entrepreneurship, the authors recommended more financial, physical, and human resource assistance and MFB capacity. Williams, Adu, and Onabajo (2015) surveyed 100 Ogun State entrepreneurs to determine how microfinance financing affects entrepreneurial success. Loan rates and firm profitability were statistically significant, according to Chi-square analysis. Business sustainability requires flexible financing conditions and better financial literacy initiatives, according to the report.

Using time series data and ECM, Ochonogor (2020) studied MFI performance and economic progress in Nigeria. Like the 2021 study, microfinance loans positively correlated with HDI. MFIs are crucial to inclusive development, and the report advocated better governmental coordination and low-interest microcredit. Alalade et al. (2013) used regression analysis to study Ogun State microfinance bank activities and entrepreneurial growth. Due to insufficient capitalization, liquidity difficulties, high non-performing loans, and rigorous collateral requirements, MFB operations did not affect entrepreneurial growth, contrary to numerous studies. The authors advised increased regulation, capitalization, and loan monitoring.

Gujiuba and Jumare (2013) examined Nigerian microfinance access issues using content analysis. Poverty and structural problems hampered financial inclusion

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despite SME policy assistance. The study found that high transaction costs and small loan sizes threaten MFI sustainability.

Akingunola et al. (2013) used OLS regression to study microfinance and entrepreneurship in Ogun State. Microfinance positively correlated with firm growth, employment, poverty alleviation, and creativity. The report recommends regulatory adjustments to improve credit delivery and rural access. Okoye (2013) examined Nigeria's "jobless growth" using National Bureau of Statistics and UNDP data. Between 2004 and 2010, poverty rose despite GDP growth. To combat rising inequality, the report recommended inclusive growth, entrepreneurship, and targeted employment policies. Olu (2000) used primary data using chi-square, ANOVA, and regression to study microfinance and entrepreneurial development. While MFIs increased entrepreneurial productivity, they did not improve entrepreneurial development. However, the report recognized MFIs' contributions to Nigeria's financial and small business sectors.

3. Research Methodology

Design of Research

In order to investigate the impact of microfinance institutions on the growth of entrepreneurship in Nigeria, this study uses a quantitative research methodology with an ex-post facto and correlational approach. Since there is no variable manipulation and the study is based on secondary and historical data, the design is adequate. The method makes it possible to pinpoint the long-term causal links between microfinance operations and the results of entrepreneurship.

Framework for Methodology

The entrepreneurship development theory and financial intermediation theory, which contend that having access to financial services improves the establishment, growth, and productivity of businesses, serve as the foundation for this investigation. The methodological framework lays out the practical connection between the operations of microfinance institutions and the growth of entrepreneurship in Nigeria.

The paradigm makes the assumption that microfinance organizations use financial outreach, savings mobilization, and credit provision to affect the growth of

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entrepreneurship. These services lessen liquidity limitations, increase business sustainability, and make finance more accessible to micro and small businesses. However, as control variables, macroeconomic factors like inflation, economic growth, and changes in interest rates also have an impact on the development of entrepreneurship.

The framework demonstrates how bank branches, deposits, and microfinance credit all have a direct impact on the growth of entrepreneurship by facilitating easier access to capital and business assistance. In order to account for the larger macroeconomic environment that has an indirect impact on entrepreneurial success, inflation, GDP growth, and interest rates are also included as control variables. These elements work together to describe how economic circumstances and financial services influence the growth of entrepreneurship in Nigeria.

Note on Data: The ease of doing business (EDB) statistics used in this study were interpolated for the period 2000–2024. This approach was necessary because the World Bank discontinued the official EDB rankings due to inconsistencies in its computations, making direct longitudinal data unavailable. The interpolation ensures continuity in the time series for analytical purposes while acknowledging the limitations of the original dataset.

Model Specification

This study adopted the modified version of Yusuf and Adio (2025) estimate of the effect of Islamic microfinance on economic development. Panel regression model was specified:

$$EDit = \alpha + \beta_1 IMFIit + \beta_2 INFLit + \beta_3 UNEMPit + \beta_4 GEXPit + \mu_i + \lambda_t + \epsilon_{it} \dots \dots (1)$$

Where:

EDit: Economic development indicator (e.g., log of real GDP per capita, poverty rate, or employment rate) in region *i* at time *t*

IMFIit: Islamic microfinance activity indicator (e.g., total loans disbursed, active borrowers)

INFLit: Inflation rate (control variable)

UNEMPit: Unemployment rate

GEXPit: Government expenditure (proxy for public investment)

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μ_i : Unobserved region-specific fixed effects

λ_t : Time fixed effects (e.g., shocks from policy changes or pandemics)

ϵ_{it} : Stochastic error term

The functional relationship between microfinance institutions and entrepreneurship development is specified as:

$$ENTD = f(MFI, Z)$$

$$ENTD = f(MFI, Z)$$

Where:

ENTD = Entrepreneurship Development

MFI = Vector of Microfinance Institution Indicators

Z = Vector of Control Variables

The explicit econometric form of the model is expressed as:

$$ENTD_t = \beta_0 + \beta_1 MFC_t + \beta_2 MFD_t + \beta_3 MFB_t + \beta_4 INF_t + \beta_5 GDPG_t + \mu_t$$

Where:

EDB = Ease of Doing Business (proxy for Entrepreneurship Development)

MFC = Microfinance Credit to SMEs

MFD = Microfinance Deposits

MFB = Number of Microfinance Bank Branches

INF = Inflation Rate

GDPG = GDP Growth Rate

β_0 = Intercept term

$\beta_1 - \beta_5$ = Parameters to be estimated

μ = Stochastic error term

t = Time period

Description of Variables in the Model

This section explains the operational definition and measurement of variables used in the study.

Dependent Variable

Entrepreneurship Development (ENTD): Entrepreneurship Development refers to the process of enhancing the knowledge, skills, and capabilities of individuals to identify, create, and exploit business opportunities, leading to the establishment,

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growth, or expansion of enterprises. It involves fostering innovation, risk-taking, managerial competence, and resource mobilization, which are essential for sustaining profitable business ventures. In this study, it is measured by the Ease of Doing Business index in Nigeria.

Independent Variables (Microfinance Institution Indicators)

Microfinance Credit (MFC): This represents the total volume of loans disbursed by microfinance institutions to micro and small enterprises. It measures financial support provided to entrepreneurs and is expected to positively influence business performance and expansion.

Microfinance Deposits (MFD): This refers to total savings and deposits mobilized by microfinance institutions. It reflects the financial depth and intermediation capacity of MFIs, which enhances their ability to provide credit to entrepreneurs.

Microfinance Bank Branches (MFB): This measures the number of microfinance bank branches operating in Nigeria. It serves as a proxy for financial outreach and accessibility of microfinance services, especially in rural and underserved areas.

Inflation Rate (INF): Inflation represents the general increase in price levels in the economy. High inflation increases operating costs and reduces consumer purchasing power, which can negatively affect entrepreneurial activities.

Gross Domestic Product Growth Rate (GDPG): GDP growth rate captures overall economic performance. A growing economy creates demand for goods and services and improves business profitability and investment opportunities.

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Table 3.1: Measurement Summary Table and a Priori Expectations

Variable	Symbol	Measurement	Expected Sign
Entrepreneurship Development	ENTD	SME output / registrations / self-employment rate	—
Microfinance Credit	MFC	Total loans to SMEs (₦)	+
Microfinance Deposits	MFD	Total MFI deposits (₦)	+
Microfinance Bank Branches	MFB	Number of branches	+
Inflation Rate	INF	Annual % change in CPI	—
GDP Growth Rate	GDPG	Annual % change	+

Sources of Data

The study relies on secondary data obtained from credible and authoritative sources, including:

- i. Central Bank of Nigeria (CBN) Statistical Bulletin
- ii. National Bureau of Statistics (NBS)
- iii. World Bank Development Indicators
- iv. Microfinance Annual Reports
- v. Small and Medium Enterprises Development Agency of Nigeria (SMEDAN)
- vi. IMF Financial Access Survey

4. Empirical analyses

Table 4.1: Descriptive Statistics

	EDB	MFB	MFD	MFC	INF	GDPGR
Mean	132.6667	825.0000	10593.98	206.9142	19.22303	4.814545
Median	131.0000	818.0000	2188.200	55.04985	13.25000	5.020000
Maximum	170.0000	2024.000	76662.04	1629.166	72.84000	15.33000
Minimum	94.00000	334.0000	28.11728	23.42807	5.390000	0.430000

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Std. Dev.	21.23480	256.2393	19453.86	378.8251	16.19477	3.006794
Skewness	0.530155	2.937104	2.129006	2.620874	1.988090	1.137519
Kurtosis	2.377783	16.00989	6.539500	8.952276	6.103766	5.677107
Jarque-Bera	2.078192	280.1750	42.15575	86.49509	34.98463	16.97121
Probability	0.353774	0.000000	0.000000	0.000000	0.000000	0.000206
Sum	4378.000	27225.00	349601.3	6828.169	634.3600	158.8800
Sum Sq. Dev.	14429.33	2101074.	1.21E+10	4592271.	8392.658	289.3060
Observations	33	33	33	33	33	33

With a mean of 132.7, a median of 131.0, and values ranging from 94.0 to 170.0, Ease of Doing Business (EDB) has little fluctuation. Kurtosis of 2.377 denotes a platykurtic distribution, whereas positive skewness (0.530155) indicates a somewhat right-skewed distribution. EDB is regularly distributed according to the Jarque–Bera statistic of 2.0781 with a probability of 0.35. In comparison, Microfinance Bank branches (MFB) have a mean of 825.0 and a median of 818.0, ranging from 334.0 to 2024.0, with little central dispersion but strong right skewness (2.937) and high leptokurtosis (16.00). Jarque–Bera = 280.17 ($p = 0.00$), indicating non-normality. The series is right-skewed (2.129), leptokurtic (6.539), and non-normally distributed ($JB = 42.15$; $p = 0.00$), with a mean of 10593.98 and a median of 2188.2, ranging from 28.11 to 76662.04. Microfinance Credits (MFC) have a mean of 206.9 and a median of 55.05, ranging from 23.43 to 1629.2, and a positively skewed (2.62), highly leptokurtic (8.95), and non-normal distribution ($JB = 86.49$; $p = 0.00$). The mean and median of inflation (INF) are 19.22 and 13.25, with values between 5.39 and 72.84, suggesting considerable variability, right skewness (1.99), leptokurtosis (6.103), and non-normality ($JB = 34.98$; $p = 0.00$). GDP growth rate (GDPGR) is right-skewed (1.14), leptokurtic (5.67), and not normally distributed ($JB = 16.97$; $p = 0.000$). Its mean is 4.81 and median is 5.02, with a minimum of 0.43 and a maximum of 15.3. All variables except EDB had right-skewed, leptokurtic, and non-normal distributions, showing extreme values and structural variations across the research period.

Data Analysis

Stationarity Test

Table 4.2: Summary Compilation of Stationarity Test (ADF) for the model

Statistics Variable	LEVEL			FIRST DIFFERENCE			Comment
	T.Statistic	5% Level	Prob.	T.Statistic	5% Level	Prob.	
EDB	-0.451893	-1.95168	0.51	-5.689500	-1.95206	0.00	I(1)
MFC	8.969065	-1.95168	1.00	-2.91916	-1.95206	0.00	I(1)
INF	-1.387335	-1.95168	0.15	-5.271808	-1.95206	0.00	I(1)
MFB	1.152229	-1.95168	0.93	-2.992233	-1.95206	0.00	I(1)
MFD	-2.055904	-1.95168	0.03	-	-		I(0)
GDPGR	-1.116045	-1.95168	0.23	-9.560979	-1.95206	0.00	I(1)

Where: PP - Phillips-Perron test statistic.

Prob. – Probability Level

With the exception of microfinance deposits, which are stationary at level and returned to their mean, all of the model's variables remained stationary following initial differencing, according to the Phillips-Perron (PP) test at the 5% significance level. This suggests that there is no unit root and that the trend is stable. This implies that trustworthy estimations without differencing can be obtained from microfinance deposits. Only after differencing did the PP test statistics for the other variables surpass the crucial values at 5%, indicating stationarity. Non-stationary time series are usually stochastic, according to Box and Jenkins (1970), and differencing is used on smooth trends instead of logarithmic transformation since it can handle negative values. The study moves on to the ARDL boundaries cointegration test in light of these findings, as shown in the table below.

Table 4.3: Cointegration Test

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	5.857859	5

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Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

According to the above bounds cointegration test, the f-statistical value of 5.85 is higher than the critical value's upper bound of 3.79 at 5%. This implies that there is evidence to support the alternative hypothesis that there is a long-term link between the variables under investigation and to reject the null hypothesis that there is no long-term association. By implication, the series of hypotheses exhibit long-term cointegration, meaning that modifications to one variable are likely to have a lasting effect on the others. We then go ahead and determine their long-run and error-correction regressions because there is a long-term correlation.

Table 4.4: Long Run result

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(MFC)	10.780472	4.865021	2.215915	0.0398
LOG(MFD)	5.059792	2.312755	2.187777	0.0421
LOG(MFB)	19.778912	38.633036	0.511969	0.6149
INF	14.300247	4.748760	3.011364	0.0079
GDPGR	5.855999	2.009585	2.914034	0.0097
C	-95.986481	258.689941	-0.371048	0.7149

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The model's long-term estimation results are shown in Table 4.4. The results show that, at the 5% level of significance, microfinance loans to SMEs (MFC) have a favorable and statistically significant impact on the growth of entrepreneurship. In particular, it has been estimated that, *ceteris paribus*, a 1% increase in microfinance loans to SMEs results in a long-term boost in entrepreneurship development of 10.78%. This outcome is consistent with financial intermediation theory's theoretical tenets and *a priori* predictions.

The consequence is that more microfinance credit availability eases the liquidity limitations encountered by startups and small businesses, who are frequently shut out of traditional banking systems because of the strict documentation and collateral requirements. Increased access to credit makes it possible to launch new businesses, finance working capital, replenish inventories, and improve operational stability. Microfinance lending immediately boosts the entrepreneurial ecosystem and enhances the general business climate by lowering financial bottlenecks.

At the 5% level, the microfinance deposits (MFD) coefficient is likewise positive and statistically significant. According to the findings, a 1% increase in deposits raised by microfinance institutions enhances the growth of entrepreneurship by roughly 5.05% over time. Theoretical expectations are supported by this result. Higher deposit mobilization improves institutional liquidity, expands lending capacity, and boosts the effectiveness of credit delivery because deposits are the main source of loanable money for microfinance organizations. Over time, improved financial intermediation makes doing business easier by reducing credit restriction, reducing transaction delays, and encouraging corporate expansion.

At the 5% threshold, the number of microfinance bank branches (MFB) shows a positive but statistically insignificant coefficient. This implies that while branch expansion could enhance geographic reach, it does not substantially result in quantifiable advancements in the long-term development of entrepreneurship. Operational inefficiencies, low capitalization, shoddy loan monitoring systems, or the concentration of branches in metropolitan areas that are already served rather than underdeveloped rural areas could all be contributing factors to the insignificance. Therefore, it seems that financial depth and institutional quality are more important than just physical growth.

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At the 5% level, inflation (INF) shows a positive and statistically significant link with the development of entrepreneurship, which is contrary to a priori beliefs. According to the coefficient, there is a 14.3% long-term improvement in the ease of doing business for every 1% increase in inflation. Since rising prices compress profit margins, lower family purchasing power, and raise manufacturing expenses (raw materials, fuel, transportation, and imported inputs), it is theoretically expected that inflation will have a negative impact on entrepreneurial performance. Generally speaking, high inflation deters investment and company growth. Nonetheless, a number of structural factors in the Nigerian economy can be reflected in the positive coefficient. Periods of higher aggregate demand and nominal revenue growth may occur together with moderate inflation, increasing business turnover. Additionally, in inflationary situations, entrepreneurs may raise prices to maintain nominal profitability. It might also suggest that demand-driven inflation, rather than just macroeconomic instability, drives inflation in Nigeria during specific times of economic boom. Nevertheless, even with the noted favorable correlation, sustained high inflation still poses a risk to the long-term viability of businesses.

Lastly, at the 5% level, the GDP growth rate shows a positive and statistically significant influence. According to the findings, entrepreneurial development is enhanced by roughly 5.86% over time for every 1% increase in GDP growth. This result aligns with macroeconomic expectations and endogenous growth theory. The expansion of productive activity, improved investment climate, higher market demand, and growing income levels all contribute to economic growth. Stronger sales prospects, quicker inventory turnover, more stable cash flow, and higher firm survival rates are all benefits of higher GDP growth for businesses. An expanding economy creates a more favorable business environment by lowering transaction costs and operating uncertainties.

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Table 4.5: Short Run Result
Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EDB(-1))	0.494709	0.227658	2.173042	0.0434
DLOG(MFC)	5.625664	2.396069	2.347872	0.0312
DLOG(MFC(-1))	10.873422	9.779523	1.111856	0.2808
DLOG(MFD)	4.391481	2.422603	1.812712	0.0866
DLOG(MFB)	0.532130	0.214819	2.477111	0.0240
DLOG(MFB(-1))	36.233033	23.867846	1.518069	0.1464
D(INF)	-0.261846	0.274626	-0.953465	0.3530
D(GDPGR)	-0.151315	1.318782	-0.114739	0.9099
CointEq(-1)	-0.867917	0.230998	-3.757245	0.0014
R-squared	0.696836	Mean dependent var	132.5161	
Adjusted R-squared	0.494726	S.D. dependent var	21.91631	
S.E. of regression	15.57869	Akaike info criterion	8.624779	
Sum squared resid	4368.519	Schwarz criterion	9.226128	
Log likelihood	-120.6841	Hannan-Quinn criter.	8.820804	
F-statistic	3.447812	Durbin-Watson stat	2.346809	
Prob(F-statistic)	0.008937			

*Note: p-values and any subsequent tests do not account for model selection.

According to the short-run estimation's statistical backdrop, the adjusted R^2 is 0.494726 and the coefficient of determination (R^2) is 0.696836. According to the R^2 , the explanatory factors in the model account for roughly 69.7% of the overall variation in ease of doing business (EDB). Nevertheless, the adjusted R^2 indicates that the combined influence of macroeconomic and microfinance variables statistically explains roughly 49.5% (almost 50%) of the variation in EDB after controlling for degrees of freedom and the number of regressors. The remainder (about 50.5%), not 18%, can be attributed to random shocks, missing data, and other elements that the

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error term accounts for. The inclusion of various regressors in relation to sample size may be the cause of the discrepancy between R^2 and adjusted R^2 . The model does not have serial correlation issues, and the parameter estimates are trustworthy for inference, according to the Durbin-Watson value of 2.34, which implies that there is no first-order autocorrelation in the residuals.

Crucially, the error correction term (ECT) is statistically significant at the 5% level and exhibits the anticipated negative sign. This demonstrates that there is a legitimate long-term equilibrium relationship between the variables. According to the ECT coefficient's magnitude (-0.87), about 87% of short-term disequilibrium is resolved in a year. This shows a relatively high rate of adjustment toward long-term equilibrium, implying that business environment aberrations from equilibrium are quickly fixed.

At the 5% level, the lagged dependent variable's coefficient, $EDB(-1)$, is positive and statistically significant. This suggests either tenacity or a lack of enthusiasm for conducting business. Practically speaking, enhancements (or declines) in the corporate environment typically persist into later times. Therefore, rather than being purely contemporaneous, institutional reforms, regulatory enhancements, and structural changes have dynamic impacts. At the 5% threshold, the current microfinance credit (MFC) coefficient is positive and statistically significant. In particular, *ceteris paribus*, a 1% increase in microfinance lending results in a short-term improvement in ease of doing business of roughly 5.63%. This implies that the growth of credit has an instantaneous effect on the activity of entrepreneurs. Expanded availability of microfinance facilitates quicker business formalization, decreases financing costs, supports working capital requirements, and lessens dependency on unofficial credit markets. The short-term business climate is directly improved by microfinance lending by lowering entrance and operating barriers.

On the other hand, the coefficient for microfinance deposits (MFD) is positive but not statistically significant. This suggests that short-term increases in the ease of doing business may not always follow deposit mobilization. The most likely reason is that deposits have an impact on entrepreneurial success only after they have been converted into productive financing. Therefore, even while deposits increase institutional liquidity, their effects seem to be indirect and more noticeable over time

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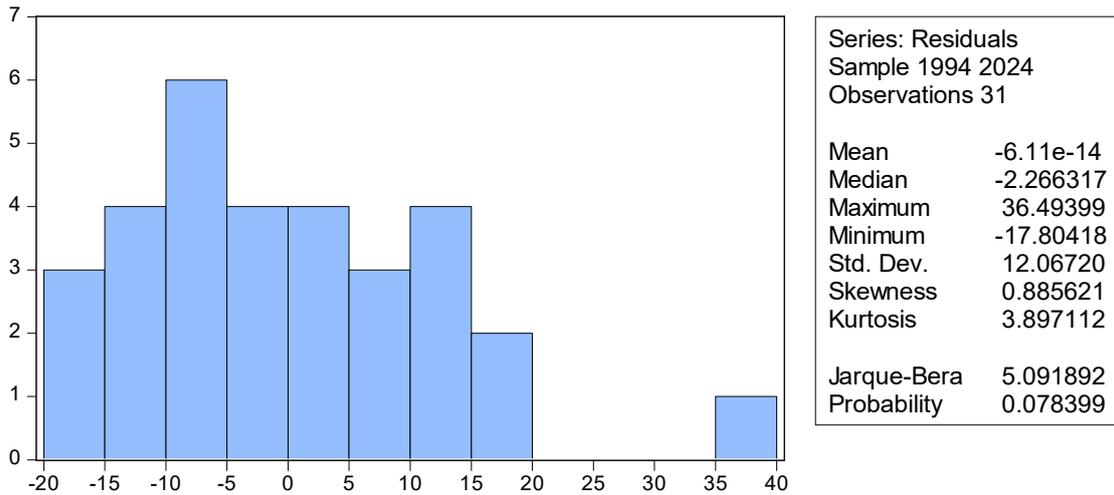
rather than right away. At the five percent level, the number of microfinance bank branches (MFB) has a positive and statistically significant coefficient. The magnitude (about 53%) points to a significant short-term effect. This suggests that opening more branches greatly enhances financial accessibility right away. Physical closeness to financial services lowers transaction costs, including travel time and administrative delays, because of Nigeria's sizable informal, rural, and semi-urban economy. Increased outreach promotes borrowing and saving, improves financial inclusion, and makes it easier to formalize and enter new businesses. Therefore, in the short term, branch development greatly enhances the simplicity of conducting business. The coefficient for inflation (INF) is negative but statistically negligible. According to this, the short-term impact on ease of doing business throughout the study period is not statistically significant, despite the fact that rising prices may theoretically raise production costs and decrease purchasing power. Firms may be able to mitigate immediate negative effects by partially absorbing short-term pricing volatility through price adjustments.

In the short term, the GDP growth rate also exhibits a negative and statistically insignificant coefficient. This suggests that quantifiable improvements in the corporate regulatory environment may not always follow short-term shifts in overall economic development. Regulatory frameworks, financial accessibility, and institutional improvements frequently have a greater impact on ease of doing business than do transient macroeconomic swings. Therefore, GDP growth appears to have a limited short-term impact, even while it has a good long-term impact (as previously demonstrated).

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Post Estimation Test

i. Test for the Normality of the Residual



Researchers examine the normalcy of the regression residual in order to assess the validity of regression. The researcher will be able to determine whether the estimated equation complies with the fundamental tenets of ordinary least squares by using this very post-estimation test. We claim that the residuals are normally distributed based on the Jarque-Bera statistic's value of 5.091892 and its probability value of 0.078399.

ii. Serial Correlation Result.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.993275	Prob. F(2,16)	0.1687
Obs*R-squared	6.183311	Prob. Chi-Square(2)	0.0754

The serial independence of the error term was tested in this work using the Breusch-Godfrey Serial Correlation LM Test. We claim that there is no evidence of serial correlation in the study's residual and that the estimated equation is blue because the F-statistic value of 1.993275 and the observed R-squared value of 6.183311 are statistically insignificant with probability values of 0.1687 and 0.0754.

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iii. Homoskedasticity Test:

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.177770	Prob. F(12,18)	0.3661
Obs*R-squared	13.63481	Prob. Chi-Square(12)	0.3246
Scaled explained SS	6.658953	Prob. Chi-Square(12)	0.8793

The Breusch-Pagan-Godfrey heteroskedasticity test was employed in this investigation to assess whether the residuals have constant variance. In regression analysis, this test evaluates the presence of heteroskedasticity by examining if the variance of residuals varies across different levels of the independent variables. Our results indicate evidence of homoskedasticity in the residuals, confirming that the estimated equation is BLUE. This conclusion is supported by the F statistic value of 1.177770, the Obs*R-squared value of 13.63481, the scaled explained sum of squares value of 6.658953, and their corresponding p-values of 0.3661, 0.3246, and 0.8793, all of which exceed the 0.05 significance level.

5. Summary

This study looked at the connection between Nigerian entrepreneurship development and microfinance institutions. In Nigeria, microfinance institutions play a crucial role in fostering the growth of entrepreneurship, especially when bolstered by steady economic expansion and macroeconomic stability. The National Bureau of Statistics (NBS), World Bank publications, and the CBN statistical bulletin were the sources of the statistical data used. The Phillips-Perron test method was used to test for stationarity in time series data. Following the discovery of a long-term cointegrating link between the series used in the study by the limits test, the Autoregressive Distributed Lag (ARDL) approach was used for hypothesis testing and estimation. The following is a summary of the study's findings:

- i. Over the course of the study, microfinance credits considerably boosted the growth of entrepreneurship in Nigeria.

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- ii. In the long term, microfinance deposits greatly enhanced the growth of entrepreneurship, but in the short term, they had little effect.
- iii. While the current realization of the short run greatly enhanced entrepreneurship development, the number of microfinance bank branches had a little positive impact on entrepreneurship development over the long term.
- iv. Over time, inflation significantly benefited the growth of entrepreneurship.
- v. In the long term, the GDP growth rate significantly boosted the growth of entrepreneurship, while in the short term, the opposite was true.

Conclusion

The study investigated whether microfinance institutions have been successful in making doing business in Nigeria easier, given the critical role that entrepreneurship plays in creating jobs and fostering economic growth. The findings demonstrated that microfinance bank deposits, credits, and branch growth all considerably enhance the growth of entrepreneurship in Nigeria. According to this, better access to microfinance services fosters company formalization, lowers transaction and entry barriers, increases financial inclusion, and helps micro-, small-, and medium-sized businesses survive and expand. Microfinance organizations make a significant contribution to the development of a more encouraging business environment by mobilizing savings and providing financing to underprivileged businesses. By raising production costs, reducing purchasing power, increasing uncertainty, and tightening credit conditions, macroeconomic instability stifles entrepreneurial activity, according to the study, which also found that inflation has a significant negative impact on ease of doing business. Overall, the study comes to the conclusion that microfinance organizations play a critical role in fostering the growth of entrepreneurship in Nigeria, especially when backed by steady economic expansion and macroeconomic stability. In addition to prudent macroeconomic management, strengthening the microfinance industry is still crucial for facilitating business transactions and encouraging inclusive, long-term entrepreneurial growth in Nigeria.

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