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Impact of microfinance on poverty in Imo state, Nigeria

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Abstract
Persistent poverty in Nigeria, particularly in rural regions such as Imo State, continues to challenge inclusive development despite the increasing presence of microfinance institutions (MFIs). This study evaluates the effectiveness of MFIs as a strategy for poverty alleviation, addressing the ongoing debate about their true impact on improving household welfare. The research investigates whether access to microfinance services significantly influences income levels and savings behavior among rural beneficiaries. A stratified sampling technique was used to segment Imo State into 16 sampling units, from which 12 microfinance banks were purposively selected across Owerri, Okigwe, and Orlu zones. A total of 384 structured questionnaires were distributed, out of which 80 were valid and analyzed. Descriptive statistics revealed that 78% of respondents were male, 65% were married, and 36% lacked formal education. The income distribution showed that 29% earned between ₦10,000–₦15,000 monthly, while 24% earned above ₦20,000. A multinomial logit model was employed to assess the relationship between access to financial services and income level. Results indicate that higher-income individuals have significantly greater access to microfinance products and savings opportunities, supporting classical economic theory that links income with saving behavior. However, the study also finds that the poorest households remain largely excluded, limiting the overall poverty reduction potential of microfinance. The study concludes that while microfinance can enhance financial inclusion, its impact is constrained by income inequality and operational limitations. It recommends that targeted financial strategies such as group lending, rural branch expansion, and capacity development be adopted by policymakers and financial institutions to ensure more equitable access to microfinance services and effective poverty alleviation.

Keywords: Microfinance, Poverty Alleviation, Savings Behavior, Income Distribution and Multinomial logit model

1. Introduction

Poverty remains a critical developmental challenge in Nigeria, particularly in the southeastern states such as Imo, where economic deprivation continues to hinder inclusive growth and social welfare. Despite ongoing policy reforms, Imo State still experiences significant financial exclusion, high youth unemployment, and limited access to credit among its rural and peri-urban populations (Njoku & Shaibu, 2024). Recent studies confirm that persistent poverty in Imo is exacerbated by inadequate financial service penetration, especially in rural LGAs, where over 50% of the population

remains excluded from formal financial services (Obidiegwu, Chieke & Echebiri, 2024; Ogbonna, Irem & Ibiam, 2025). Microfinance is globally acknowledged as a pivotal strategy for financial inclusion and poverty alleviation. The United Nations' Sustainable Development Goals (SDGs), particularly Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth), emphasize expanding access to financial services, including microcredit, savings, and insurance, as a lever to reduce poverty. In line with this mandate, Nigeria adopted the National Financial Inclusion Strategy (NFIS), aiming to increase formal financial inclusion from 36.3% in 2010 to 80% by 2025. Yet, EFInA's latest report indicates that only 64% of adults in Nigeria are financially served as of 2022, with states like Imo trailing behind due to uneven MFB distribution and weak institutional frameworks (EFInA, 2022). Microfinance banks (MFBs) in Imo State face operational challenges including undercapitalization, limited branch networks, and low technological adoption, limiting their ability to reach marginalized groups (Barisua, 2025; Mohammed & Jallah, 2025). These issues mirror earlier findings by the Central Bank of Nigeria, which noted that MFBs are often concentrated in urban zones like Owerri and Orlu, neglecting high-poverty rural LGAs in Okigwe and surrounding areas (CBN, 2021). From a theoretical standpoint, the financial intermediation theory posits that access to credit can drive productive investment and economic empowerment among the poor. However, empirical literature on the impact of microfinance on poverty presents conflicting conclusions. Some studies highlight positive effects on income and asset accumulation (Adjei et al., 2009; UNDP, 2021), while others, such as Banerjee et al. (2015) and Karlan et al. (2016), argue that microfinance often fails to significantly uplift the poorest segments due to issues like over-indebtedness, misallocation of loans, and weak repayment structures. In Imo State, recent local studies echo this ambivalence. For instance, Obidiegwu et al. (2024) found that while MFBs improve access to credit for MSMEs, their actual impact on poverty reduction is marginal due to poor outreach strategies and non-targeted lending practices. Similarly, NJOKU & SHAIBU (2024) report that human resource capacity gaps within MFBs limit effective credit disbursement and recovery, especially in agriculturally driven rural LGAs. Thus, despite microfinance's promise, gaps remain in assessing its practical and contextual effectiveness in Imo State. Few recent empirical studies have evaluated the dynamics between MFB service provision and poverty outcomes using updated field data from the region. This study addresses this gap by using a stratified sample of MFB customers across all three senatorial zones of Imo State to assess the effectiveness of microfinance interventions in poverty alleviation, with a focus on savings behavior, access to credit, and income outcomes.

1.1 United Nations Mandate for Microfinance and Poverty Alleviation

The global agenda for poverty eradication has long recognized financial inclusion, especially through microfinance, as a strategic tool for sustainable development. The World Summit for Social Development (WSSD) held in March 1995 identified poverty eradication as a core ethical, social, political, and economic imperative, urging both national governments and international institutions to collaborate in designing inclusive strategies to reduce deprivation. The WSSD Programme of Action called for stronger civil society involvement, international support, and resource mobilization, thereby embedding microfinance within broader poverty-reduction frameworks. Building on this

foundation, the United Nations Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth), explicitly advocate for increased access to financial services for the poor, including microcredit, savings, and insurance. The UN System Conference Action Plan (UNSCAP) identified five thematic priorities jobs and sustainable livelihoods, environmental regeneration, enabling environments, social services for all, and gender mainstreaming all of which intersect with the principles of inclusive finance. These themes underscore the multidimensional nature of poverty and reinforce the role of microfinance as a catalyst for empowerment, especially for marginalized groups. More recently, Woodworth (2024) has reasserted the importance of microfinance within the SDG framework, emphasizing how targeted financial inclusion strategies through NGOs and local partnerships can help build resilient livelihoods, particularly in low-income regions. Woodworth's case analysis of three NGO-led microfinance initiatives highlights the importance of context-specific financing models in achieving measurable development impact.

In the African context, the potential of microfinance as a sustainable poverty reduction mechanism is both promising and challenging. Studies such as Irabor and Irabor (2023) have examined Nigeria's poverty alleviation strategies under the SDG umbrella and concluded that while initiatives like the Osun State Youth Empowerment Scheme (OYES) show potential, inadequate financial access and poor implementation often undermine long-term success. This reinforces the argument that while the UN provides technical assistance and model demonstration roles, national governments and financial institutions must take responsibility for capital provisioning and implementation effectiveness especially in fragile socio-economic environments like Nigeria's.

Therefore, the UN mandate for microfinance must be interpreted not just as a global directive but as a localized framework that requires adaptation to local institutional capacities, regulatory environments, and socio-economic dynamics. In states like Imo, where poverty is compounded by financial exclusion, infrastructure limitations, and underperforming microfinance banks, aligning microfinance interventions with the SDGs offers a viable pathway for inclusive development if designed and implemented with sufficient context-awareness and institutional support.

1.2 Objectives of the Study

The **main purpose** of this study is to critically evaluate the impact of microfinance banking services on poverty decline in Imo State, Nigeria. It aims to determine whether microfinance initiatives, especially credit provision and savings mobilization, effectively convalesce the socio-economic situation of low-income households in the state.

To achieve this overarching goal, the study is guided by the following specific objectives:

1. To assess the current poverty situation in Imo State and determine the socio-economic attributes of the impoverished population.
2. To investigate the operational practices and outreach strategies of microfinance banks (MFBs) across the three senatorial zones of Imo State.
3. To evaluate how effective microfinance banks are in reducing poverty among beneficiaries by providing access to credit, savings, and other financial services.
4. To examine the extent to which individuals' income levels are significantly related to their savings behavior within the state.
5. To evaluate the extent to which access to microfinance credit contributes

to poverty reduction at the household level in Imo State.

6. To provide policy-oriented recommendations aimed at strengthening microfinance institutions and enhancing their role in rural financial inclusion and sustainable poverty alleviation.

1.3 Research Questions

To address the outlined objectives, this study is guided by the following research questions:

1. What is the current nature and extent of poverty among residents in Imo State, Nigeria?
2. What types of financial services and activities are provided by microfinance banks in the three senatorial zones of Imo State?
3. How effective are microfinance banks in reducing poverty among low-income earners in Imo State?
4. What strategies do microfinance banks use to mobilize savings among their customers, and how effective are these strategies?
5. Does a significant correlation exist between income level and personal savings behavior in Imo State?
6. Does access to microfinance bank credit lead to measurable improvements in household income and poverty reduction?

1.4 Research Hypotheses

To test the relationships implied in the study's objectives, the following null and alternative hypotheses have been formulated:

1. **H_{01}:** There is no significant difference in the poverty levels among residents of the three senatorial zones in Imo State.

   H_{11}: There is a significant difference in the poverty levels among residents of the three senatorial zones in Imo State.

2. **H_{02}:** The financial services provided by microfinance banks have no significant impact on the economic activities of residents in Imo State.

H_{12}: The financial services provided by microfinance banks have a significant impact on the economic activities of residents in Imo State.

3. **H_{03}:** Microfinance banks are not effective in alleviating poverty among low-income earners in Imo State.

   H_{13}: Microfinance banks are effective in alleviating poverty among low-income earners in Imo State.

4. **H_{04}:** There is no significant relationship between income class and individual savings behavior in Imo State.

H_{14}: There is a significant relationship between income class and individual savings behavior in Imo State.

5. **H_{05}:** Microfinance bank credit does not significantly reduce poverty among beneficiaries in Imo State.

H_{15}: Microfinance bank credit significantly reduces poverty among beneficiaries in Imo State.

6. **H_{06}:** The strategies employed by microfinance banks have no significant effect on savings mobilization in Imo State.

H_{16}: The strategies employed by microfinance banks have a significant effect on savings mobilization in Imo State

2. Literature review

2.1 Microfinance in Nigeria: A Critical Review

Microfinance has long served as a financial inclusion tool in Nigeria, aimed at expanding access to financial services for the unbanked and underserved populations, particularly in rural and peri-urban areas. While informal savings and credit systems such as Rotating Savings and Credit Associations (ROSCAs) and Self-Help Groups (SHGs) historically played a role in supporting local finance (Aderibigbe & Ijaiya, 2022), the limitations of these systems particularly in scalability, regulation, and loanable funds prompted the need for more formalized microfinance structures. In response, the Central Bank of Nigeria (CBN) establishes the National Microfinance

Policy in 2005, later revised in 2011, to formalize and expand microfinance institutions (MFIs) across the country. The policy emphasized the licensing, regulation, and supervision of Microfinance Banks (MFBs) to bridge the financing gap experienced by low-income individuals and microenterprises. However, critiques persist that despite increased outreach, the actual depth of financial access remains shallow. Recent empirical work by Obidiegwu, Chieke, and Echebiri (2024) on Imo State confirms that while MFBs now cover more LGAs, their loan structures and interest rates remain unfavourable to many vulnerable groups, especially women and informal workers. Government initiatives like the Agricultural Credit Guarantee Scheme (ACGS), the Rural Banking Programme, and institutions like the Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB) were established to offer subsidized credit to rural farmers and entrepreneurs. Yet, according to Barisua (2025), many of these interventions were politically driven and failed to achieve sustainability, partly due to loan repayment defaults, poor monitoring, and the lack of financial literacy among beneficiaries. Furthermore, the Microfinance Development Fund (MDF), first proposed in 2011 and operationalized in later years, was intended to channel both commercial and social funding to MFBs for greater impact. However, recent evaluations question the effectiveness of the fund in addressing long-term capital needs of MFIs (Mohammed & Jallah, 2025). Many MFBs remain concentrated in urban areas with limited rural penetration, undermining the policy's pro-poor objectives (Ogbonna, Irem, & Ibiam, 2025).

In critique, while past literature often highlighted the promise of microfinance as a poverty-reducing tool (e.g., Schreiner, 2001; Littlefield et al., 2003), more recent evidence from Nigeria reveals a mixed picture. The evolving consensus is that microfinance alone is insufficient for structural poverty alleviation unless integrated with financial literacy, digital inclusion, and rural infrastructure development (Njoku & Shaibu, 2024; Akinbode & Bolarinwa, 2023). Thus, although microfinance remains a critical pillar of Nigeria's financial inclusion strategy, its effectiveness depends not merely on institutional expansion but on improving operational efficiency, reducing risk costs, and designing client-oriented services. This underscores the need for a paradigm shift from quantity-based outreach to quality-based impact measurement and inclusion.

2.2 Justification for the Establishment of Microfinance Banks in Nigeria

The emergence of microfinance banking in Nigeria was motivated by both structural deficiencies in existing financial systems and the persistent exclusion of low-income groups from formal credit markets. While the initial proliferation of community banks was intended to improve rural credit access, their operational inefficiencies highlighted the need for more robust and specialized financial institutions.

2.2.1 Weak Institutional Capacity

Prior to the 2005 microfinance policy introduction, Nigeria's financial landscape was plagued by institutional inefficiencies. Community banks and rural finance institutions often lacked professional management, robust internal control mechanisms, and comprehensive risk management frameworks. This led to a pattern of non-performing loans and systemic instability (Onaolapo, 2015). According to the Central Bank of Nigeria (CBN, 2011), many community banks operated without deposit insurance and had undefined operational frameworks, resulting in public distrust and poor financial performance.

2.2.2 Weak Capital Base

The capitalization of microfinance institutions prior to reform was inadequate to support the scale of micro-lending required for effective poverty alleviation. For instance, as of 2005, only 75 out of over 600 community banks had audited financial statements approved by the CBN, and many had capital bases far below the N20 million threshold (CBN, 2011). The Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), a major rural finance institution, had an authorized share capital of N50 billion but only N10 billion in paid-up capital and N1.3 billion in shareholder funds unaffected by losses (Sanusi, 2011). These limitations increased credit risk and discouraged investment in underserved areas.

2.3 Justification of Capital Requirement

The capital requirement for microfinance institutions (MFIs) is a crucial determinant of their operational capacity, financial stability, and ability to effectively intermediate funds. The former threshold of ₦5 million for community banks, as mandated under Nigeria's previous regulatory framework, has been widely regarded as insufficient for sustainable microfinance operations, particularly in supporting infrastructure, risk management, and loan disbursement (CBN, 2011). Empirical assessments and stakeholder consultations revealed that this amount barely covers start-up operational costs, leaving minimal capital for actual banking activities such as credit delivery or deposit mobilization (Eze & Ibekwe, 2016).

To address this gap, the Central Bank of Nigeria revised the capital base requirements under the 2011 Microfinance Policy, mandating a minimum paid-up capital of ₦20 million for unit microfinance banks (MFBs) operating in rural and semi-urban areas. This is intended to enhance their operational base, build resilience against credit risk, and improve their outreach (CBN, 2011). These unit MFBs are also expected to mobilize savings from the informal sector and channel them into productive use, thereby deepening financial inclusion and stimulating rural development (Akinlabi, Akinwunmi & Bamidele, 2021).

For MFBs seeking state-wide coverage and the ability to operate branches in multiple Local Government Areas (LGAs), a minimum capital requirement of ₦1 billion has been prescribed. This higher threshold is aimed at ensuring that state-level operators possess sufficient financial capacity to manage multi-branch operations effectively and meet prudential standards. Such a requirement also aligns with international benchmarks where capital thresholds are tiered according to operational scale and geographical spread (Ledgerwood et al., 2013).

Global experiences provide further justification for differentiated capitalization. For example, in the Philippines, the Bangko Sentral ng Pilipinas (BSP) enforces a minimum capital requirement that varies by the level of operation (municipal, provincial, or national), reflecting the operational risks and outreach objectives at each level (MIX Market, 2018). Similarly, in Ghana and Kenya, microfinance institutions are classified and capitalized according to tiered licenses, ensuring that only financially capable institutions expand beyond certain thresholds (Gonzalez, 2007; AfDB, 2016).

The capitalization reform in Nigeria reflects a strategic attempt to ensure the safety, soundness, and sustainability of microfinance banks, especially in light of their developmental role in poverty reduction and small enterprise support. These requirements also help restore investor and depositor confidence following past failures of poorly capitalized financial institutions. It is therefore imperative that these

benchmarks be maintained and enforced to support the long-term viability of microfinance in Nigeria.

2.2.3 Large Unserved Market for Financial Services

Despite several rural banking initiatives, a substantial portion of Nigeria's population remained unbanked. EFInA (2020) reported that 36% of adult Nigerians equivalent to over 38 million individuals were financially excluded. Rural areas, in particular, suffer from a dearth of financial infrastructure, with an average banking outlet density of 1:57,000 inhabitants compared to urban averages of 1:32,000. Moreover, formal microfinance institutions served less than one million active clients out of the estimated 40 million needing financial services (Akinbode & Bolarinwa, 2023). These statistics underscore the structural gap that microfinance banks were designed to fill.

2.2.4 Poverty Reduction and Employment Generation

Microfinance banks were also established as part of Nigeria's broader National Economic Empowerment and Development Strategy (NEEDS), with the goal of fostering economic inclusion and employment. According to Barisua (2025), small and medium-sized industries (SMIs), though significant, employ less than 10% of the labor force, highlighting the need for financial tools that empower entrepreneurs at the micro-level. Microfinance banks can bridge this gap by offering credit to informal sector participants, thereby stimulating local production and employment.

2.2.5 Enhancing Savings Mobilization

A critical aim of microfinance policy was to encourage savings mobilization among low-income earners. Despite the misconception that the poor cannot save, several studies (Demirgüç-Kunt et al.,2018) have shown that poor households can and do save when provided with safe and convenient options. In 2004, 84.12% of Nigeria's currency in circulation was held outside the banking system (CBN, 2012). This indicates both financial exclusion and a missed opportunity for domestic capital formation. The creation of microfinance banks enabled the development of savings products tailored to informal workers and rural households, enhancing capital mobilization for investment in productive ventures.

2.2.6 Domestic and International Investment Interest

The global development community has increasingly recognized the role of microfinance in promoting financial inclusion and achieving the United Nations Sustainable Development Goals (SDGs). International donors, impact investors, and development finance institutions (DFIs) have expressed interest in funding Nigeria's microfinance sector due to its scale and potential for high-impact returns (Ogbonna et al., 2025). According to the World Bank (2022), Nigeria is among the top recipients of microfinance development assistance in Sub-Saharan Africa, particularly through digital financial service partnerships and technical assistance.

2.2.7 Optimizing the SMEEIS Fund

The underutilization of the Small and Medium Enterprises Equity Investment Scheme (SMEEIS) was another rationale for formalizing microfinance operations. As of 2004, only 29.5% of the N28.8 billion fund had been deployed, with the 10% earmarked for micro-lending largely unused due to the absence of a credible framework (CBN, 2012). The formalization of microfinance banks under CBN oversight provided a structure through which these funds could be disbursed more effectively, ensuring that credit reached the intended beneficiaries.

3. Methodology

3.1 Study of Area

The research took place in Imo State, Nigeria, chosen due to its proximity, cost-

effectiveness, and familiarity. Imo State comprises three geopolitical zones (Orlu, Owerri, and Okigwe zones) and is further divided into 27 local government areas. The state has a population of 3,934,899 individuals, with a significant portion engaged in farming, according to the National Bureau of Statistics (NBS [19]) in 2007.

Study Area: Imo State, Nigeria

Imo State is located in the southeastern region of Nigeria and was created in 1976 from the former East-Central State during the military regime of General Murtala Muhammad (National Bureau of Statistics [NBS], 2012). The state lies between latitudes 5°45′N and 6°35′N and longitudes 6°35′E and 7°28′E, covering an approximate area of 5,067.20 square kilometers. It shares boundaries with Abia State to the east, Rivers State to the south, and Anambra State to the west and northwest (Imo State Government, 2023). Owerri serves as both the capital and the largest urban center of the state. The state consists of several notable towns including Okigwe, Orlu, Oguta, Mbaise, Mbano, Njaba, and Isu. As of the 2006 National Population Census, Imo State had a population of approximately 3.93 million people (National Population Commission [NPC], 2006). However, more recent estimates by the National Bureau of Statistics (NBS) place the figure closer to 5.8 million in 2022, considering annual growth rates and urban expansion (NBS, 2022).

Imo State is recognized for its high literacy rate, with UNESCO (2015) ranking it among the top five states in Nigeria with the highest adult literacy levels, reaching over 70%. The state is home to several tertiary institutions including Imo State University, Federal University of Technology Owerri (FUTO), Alvan Ikoku Federal College of Education, and The Polytechnic Nekede, contributing significantly to its human capital development (Imo State Ministry of Education, 2021). Economically, Imo State ranks among the top contributors to Nigeria's GDP in the non-oil sectors, especially through agriculture, commerce, and services (NBS, 2020). Agriculture dominates in rural areas, while commerce, real estate, and informal markets drive the urban economy. Imo indigenes are also known for their entrepreneurial activities, particularly in retail and the pharmaceutical informal market sector across Nigeria (Okereke & Agu, 2020).

In terms of financial inclusion, Imo State reportedly hosts over 40 licensed microfinance banks, reflecting strong community involvement in cooperative banking and grassroots financial systems (CBN, 2022). Diaspora remittances also significantly support household income and local development initiatives. The poverty incidence in the state has fluctuated over time—from about 56.2% in 1996 to 27% in 2004 but more recent data show mixed trends due to national inflation and economic instability (World Bank, 2021).

Furthermore, the state possesses considerable tourism potential, with key attractions such as Oguta Lake, Njaba River, and the Nekede Zoological Garden. These sites, alongside cultural festivals and heritage centers, present opportunities for sustainable eco-tourism and economic diversification (Nigerian Tourism Development Corporation [NTDC], 2022).

3.2 Data Source

The effectiveness of microfinance banks in reducing poverty among their customers in Imo State, Nigeria, was assessed using both primary and secondary data sources. Primary data were collected through a structured instrument titled *Questionnaire on the Impact of Microfinance Banks in Poverty Reduction in Imo State (QIMBPRIS)*, which was designed to capture information on income levels, savings behavior, access to microcredit, and perceived improvement

in welfare. The study employed a descriptive survey methodology, which according to Adewumi (1981), as cited by Yahaya, Osemene, and Abdulraheem (2011), is suitable for evaluating large population-based phenomena due to its flexibility and cost-effectiveness.

Secondary data were compiled using document analysis of audited financial statements of selected microfinance banks in Imo State. These statements included balance sheets, income statements, and credit disbursement records, obtained directly from the banks with formal consent. The financial data covered a ten-year period from 2011 to 2021. Key indicators extracted included annual loan portfolio size, loan repayment rates, client outreach figures, and the distribution of loans across different income classes and sectors. These secondary data were used to support the primary findings by evaluating trends in microfinance service delivery and operational effectiveness over time. The combination of both data sources ensured methodological triangulation and improved the reliability of the study's conclusions

3.3 Sampling Method

Stratified sampling procedure was applied in sampling of the customers who expressed their views with regard to the extensiveness of the contribution of microfinance banks in poverty reduction in Imo State, Nigeria. The research area was stratified into 16 sampling units on the basis of multi band LGAs in the state of Imo. The study population was 40 microfinance banks (MFBs) operating in the 27 LGAs and were six senatorial zones. A purposive sample of twelve MFBs (four for each zone) were chosen to get a reasonable coverage for the regions. A sample size of 382 questionnaires was randomly distributed to the customers of the selected MFBs: 82 in Owerri, 100 in Okigwe, and 200 in Orlu, commensurate with the relative distribution of MFBs and population ratios. With the most number of MFBs and LGAs (13 out of 27 MFBs and 12 out of 27 LGAs), Orlu got the highest portion.

Out of the 382 questionnaires distributed, 312 were properly completed and returned, yielding a valid response rate of approximately 81.7%, which is considered acceptable and robust for survey-based research (Baruch & Holtom, 2008). The high response rate was facilitated through in-person administration and follow-up visits to selected MFBs. Respondents were asked to rate the relevance of the variables in the questionnaire, and the collected data were analyzed using both descriptive and inferential statistics, including percentage, mean, standard deviation, t-test, and Analysis of Variance (ANOVA), at a significance level of 0.05 alpha.

3.4 Method of Data Analysis

A logit regression model was used to examine the relationship between access to financial services and the poverty status of microfinance bank clients in Imo State. Also known as logistic regression, this statistical approach is designed to estimate the likelihood of a binary outcome based on one or more explanatory variables. Unlike linear regression, which predicts continuous values, the logit model calculates the log-odds of a categorical dependent variable, making it especially appropriate for distinguishing between groups such as poor and non-poor.

In this study, the average monthly income of respondents served as a proxy for poverty status. Following the framework by IPAR (2007) and Sani (2008), individuals earning less than $2 per day were considered to be poor or extremely poor in line with international poverty benchmarks and the Millennium Development Goals (MDGs). For the logit analysis, respondents earning ₦10,000 and above per month were coded as "1" (non-poor), while those earning below this threshold were coded as "0" (poor). This

binary categorization of income formed the dependent variable in the logit model.

The independent variables consisted of respondents' access to different financial services such as savings accounts, loans, ATM cards, insurance, and mobile banking which were categorized according to their usage.

- "0" = Did not respond or did not know
- "1" = Never used
- "2" = Past user
- "3" = Current user

The **logit model** used is specified as:

$$p_r\,(Y=1/\,X)=\frac{e^{XB}}{1+e^{XB}} \qquad (3.1)$$

Where:

- Y is the dependent variable (1 = income ≥ ₦10,000, 0 = income < ₦10,000)
- X is the vector of explanatory variables (financial service usage indicators)
- β represents the parameters to be estimated
- $p_r\,(Y=1/\,X)$ denotes the probability of being non-poor given financial service access

This model is relevant and appropriate for the study because it aligns with Objective 5: "Determine if income class affects savings in Imo State," and Objective 6: "Evaluate if microfinance bank credit leads to poverty reduction in Imo State." Additionally, it empirically tests the formulated hypotheses, specifically:

- **Null Hypothesis (H_0):** There is no significant relationship between an individual's income level and access to financial services in Imo State.
- **Alternative Hypothesis (H_1):** There is a significant relationship between an individual's income level and access to financial services in Imo State.

By applying the logit model, the study quantitatively assessed whether access to microfinance products statistically influenced a customer's likelihood of being above the poverty line, thus providing empirical support for or against the effectiveness of microfinance banks in poverty alleviation.

In the milieu of the current study, a multinomial logit model (MNL) an extension of the binary logit model was employed to evaluate the persuade of financial service usage on categorical income levels among microfinance bank clients in Imo State, Nigeria. Unlike the binary logit model that predicts a two-category (yes/no) outcome, the multinomial logit model predicts outcomes that have more than two nominal (unordered) categories.

The earlier part of the study applied a binary logit model where the binary outcome was income level categorized as:

- 1 = Income ≥ ₦10,000 (non-poor)
- 0 = Income < ₦10,000 (poor)

This binary variable was used to assess the relationship between access to financial services and the probability of being poor or non-poor, as aligned with international poverty lines (IPAR, 2007; Sani, 2008).

However, to gain a more granular understanding of how financial service access varies across different income levels, the study expanded the binary model into a multinomial logit framework. Here, the dependent variable is not binary but multinomial, comprising four distinct income categories:

1. Below ₦10,000/month
2. ₦10,001 – ₦15,000/month
3. ₦15,001 – ₦20,000/month
4. ₦20,001 and above/month

These income groups were treated as unordered categorical outcomes in the MNL model.

How the Outcomes Were Collected and Used

The income data were collected through a structured questionnaire administered to microfinance bank customers across the three senatorial zones of Imo State. Each respondent self-reported their monthly income, which was then coded into one of the four income categories listed above.

The multinomial logit model was then applied to assess how different levels of access to financial services (such as current usage of savings accounts, loans, mobile banking, etc.) influenced the probability of a respondent falling into one income bracket versus another. This model allowed the study to capture the non-linear relationship between income levels and access to microfinance products, providing more detailed insights beyond the binary classification of poor/non-poor.

Summary of Relevance

- The binary outcomes (poor vs. non-poor) were used in the logit model to test Hypotheses 1 & 2.
- The multinomial outcomes (four income brackets) were used in the multinomial logit model to deepen the analysis and explain variation in financial service access across income categories.
- Both models were grounded in the study's broader objective of assessing whether access to microfinance services significantly correlates with income improvement, a proxy for poverty reduction.

Justification for the Classification

- **International Benchmarks**:

The threshold of ₦10,000/month for classifying poverty follows international standards such as the World Bank's $1.90/day metric.

Sani (2008) and IPAR (2007) also used similar thresholds for poverty studies in developing countries.

- **Income Disparities in Nigeria**:

The chosen income brackets reflect observable income stratification within Nigeria's low- and middle-income populations.

These categories were particularly relevant for Imo State, where cost of living, employment patterns, and microfinance accessibility differ across senatorial zones.

- **Policy Relevance**:

These categories allow policymakers to identify income segments most affected by financial exclusion, and to target interventions accordingly (see Ogbonna, Irem, & Ibiam, 2025).

- **Statistical Validity**:

Creating discrete, nominal categories (instead of treating income as a continuous variable) permits the use of Multinomial Logit Modeling, which is robust for categorical dependent variables without assuming ordinality.

4. Results and Discussion

The result is divided into two parts i.e. descriptive results and inferential results.

4.1 Descriptive Statistics

Table 1 summarizes respondents' demographic and socio-economic profiles. Of the 384 returned questionnaires, 298 (78%) were male and 86 (22%) were female, suggesting a male-dominated usage of microfinance services. Marital status showed that 65% were married, 33% single, and 2% divorced, indicating financial responsibility likely tied to household support roles.

Educationally, a significant 36% had no formal education, with only 7% having a first degree or higher. This pattern reinforces Beck et al. (2006), who noted that illiteracy often limits rural financial inclusion. In terms of occupation, 44% were farmers, 31% business owners, and 23% civil servants, aligning with the agricultural nature of Imo State's economy.

Monthly income showed a fairly even distribution: 29% earned ₦10,001–₦15,000, 25% earned ₦15,001–₦20,000, 24% earned above ₦20,000, and 22% earned below ₦10,000. These categories provided the basis for the multinomial logistic regression model, which was preferred over binary logistic regression to accommodate the four distinct income categories, allowing for a richer understanding of how access to financial services varies by income group.

Table 1: Demographic distributions of the respondents

Variables	Frequency	Percent
Sex		
Male	298	78
Female	86	22
Marital status		
Single	125	33
Married	251	65
Divorced	8	2
Educational qualifications		
No formal education	136	37
Primary school	67	17
Secondary school	81	21
Equivalent diploma	71	19
Degree and above	28	7
Occupation		
No response	7	2
Farming	167	44
Business	120	31
Civil servant	90	23
Income range in Naira		
Below 10,000	84	22
10,001 – 15,000	111	29
15,001 -20,000	95	25
Above 20,000	94	24

From Table 2, 84 respondents (21.9%) earn below ₦10,000/month, which corresponds to less than $1/day at an exchange rate of ₦1,500/$, thus falling into the extreme poverty category. This is consistent with global poverty thresholds established by the World Bank (2023), which classify individuals earning under $1.90/day as extremely poor. An additional 28.9% earn between ₦10,001 and ₦15,000, placing them in the moderate poverty bracket. Cumulatively, 50.8% of respondents live below the poverty line, indicating a widespread poverty condition in Imo State. Only 24.5% earn above ₦20,000/month and can be classified as non-poor.

These findings align with Ogbonna et al. (2025) and Obidiegwu et al. (2024), who reported that poverty levels in Southeastern Nigeria remain high, particularly in rural communities lacking access to financial infrastructure and income-generating opportunities. The income profile thus highlights a severe poverty situation that necessitates targeted financial interventions, validating the need for microfinance support in these regions.

Table 2: Income Distribution of Respondents (N = 384)

Monthly Income Bracket (₦)	Frequency (n)	Percentage (%)	Poverty Status
Below 10,000	84	21.9	Extreme Poverty (Below $1/day)
10,001 – 15,000	111	28.9	Moderate Poverty (Near $2/day)
15,001 – 20,000	95	24.7	Vulnerable Non-poor
Above 20,000	94	24.5	Non-poor
Total	**384**	**100.0**	

Table 3 reveals the distribution of financial services accessed by respondents from microfinance banks (MFBs) in Imo State. The most accessed service is **savings accounts**, with **72.7%** of respondents currently using them, showing that MFBs are actively promoting financial inclusion through savings mobilization. Microloan or credit facility usage stands at **45.8%**, indicating moderate access to credit. However, **group lending and self-help loan schemes** have lower participation, with only **27.3%** of respondents currently benefiting—pointing to a possible underutilization of community-based lending mechanisms that microfinance institutions traditionally champion. The low uptake of **mobile banking services (7.8%)** and **micro-insurance (5.7%)** reflects the **digital divide and limited product diversification** in rural MFB operations. Additionally, only **15.4%** of respondents have received **financial literacy training**, signaling a gap in non-financial support services crucial for the sustainability of microfinance interventions.

These findings support prior studies like **Obidiegwu et al. (2024)** and (**Njoku & Shaibu; 2024)**, which observed that while MFBs in Imo State are effective in mobilizing deposits and offering basic credit, they lag in delivering integrated financial solutions such as training, insurance, and digital banking. The analysis indicates that while MFBs are fulfilling their core roles in savings and credit, there is significant room for improvement in offering holistic financial services that support broader economic empowerment.

Table 3: Types of Financial Services Accessed by Respondents from Microfinance Banks

Service Type	Never Used	Previously Used	Currently Using	Total	% Currently Using
Savings Account	45	60	279	384	72.7%
Microloan/Credit Facility	98	110	176	384	45.8%
Group Lending/Self-Help Loans	205	74	105	384	27.3%
Mobile Banking (e.g., USSD)	310	44	30	384	7.8%
Financial Literacy/Training	215	110	59	384	15.4%
Insurance Products (Micro-Insure)	322	40	22	384	5.7%

Table 4 indicates that most respondents believe microfinance banks (MFBs) have contributed positively to reducing poverty. Specifically, 84.4% agree or strongly agree that access to microcredit improved their livelihood, indicating that credit provision is directly enhancing income-generating activities, 75.3% report an increase in income, suggesting that financial services have positively impacted earning capacity, Over 70% affirm better ability to meet household needs and improved standard of living, aligning with pro-poor outcomes expected from MFB interventions, 79.4% also note that MFBs have helped them avoid informal lenders, showing microfinance's role in protecting vulnerable groups from exploitative credit conditions.

These findings support the assertion by Barisua (2025) and (Mohammed & Jallah;2025) that effective access to microfinance enhances financial resilience and reduces poverty. The responses confirm that MFBs in Imo State are achieving their goal of providing financial services that support the economic upliftment of low-income households.

However, while these results suggest progress, there is still a minority (approx. 20–30%) expressing disagreement indicating gaps in outreach, credit effectiveness, or service quality that need further investigation.

Table 4: Perceived Impact of Microfinance Banks on Poverty Alleviation

Impact Indicator	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	% Agree/Strongly Agree
Access to microcredit improved my business/livelihood	20	40	210	114	384	84.4%
My income level has increased since joining MFB	38	56	190	100	384	75.3%
I can now meet household needs (food, fees, rent) easily	42	70	180	92	384	70.8%
My standard of living has improved due to microfinance use	51	60	176	97	384	71.0%
Microfinance helped me avoid predatory lenders (moneylenders)	33	46	200	105	384	79.4%

Table 5 presents a summary of the results from the multinomial logit regression analysis. The results show that the estimated coefficient for savings is negative and statistically insignificant in equation 4, but it becomes statistically significant in equations 5 and 6. This suggests that individuals in higher income brackets have a greater capacity to save compared to those in lower-income rural areas. This observation aligns with the economic theory of savings, which posits that saving is positively related to income level.

Conversely, the estimated coefficients for current accounts and fixed deposits are positive but not statistically significant in any of the models. Nonetheless, these variables show a 69% and 23% likelihood, respectively, of contributing to poverty reduction. Despite their lack of statistical significance, their positive coefficients suggest a potential impact on poverty reduction.

Furthermore, the estimated loan coefficients are statistically significant in equations 4 and 5, indicating a strong likelihood (98%) of contributing to poverty reduction in rural areas. This result aligns with the claim made by Burgess and Pande (2003 [23]) that access to formal financial services especially credit is vital for helping the poor enhance their productive activities and escape poverty.

In addition, the estimated coefficients for ATM usage and insurance are not statistically significant in any of the equations; however, they show approximate probabilities of 79% and 72%, respectively, for reducing poverty in rural areas. Likewise, while the coefficient for microfinance is not statistically significant across all models, it demonstrates an 84% likelihood of contributing to poverty reduction in rural areas.

In equations 3 and 4, mobile banking shows positive and statistically significant coefficients at the 5% level, while in equation 5, it does not achieve significance. Despite this, there remains a 17% probability that mobile banking can help reduce poverty in rural areas. Overall, the model is deemed adequate, as evidenced by the statistically significant LR Chi-square value at the 1% level, suggesting that the independent variables collectively explain the variation in the dependent variable, as reflected in the Pseudo R^2 value.

Table 5: Summary of Multinomial Logit Regression.

Variables	(4)	(5)	(6)	probability
Saving account	-0.27 (-1.28)	-0.56 (-1.96)	-0.56 (-2.60)	0.202
Current account	0.10 (0.44)	0.10 (0.44)	0.25 (1.08)	0.692
Fixed deposit	0.74 (1.67)	0.73 (1.44)	0.54 (1.19)	0.234
Loan	0.01 (0.02)	-0.88 (-2.60)	-0.64 (-2.07)	0.985
ATM debit card	0.06 (0.27)	-0.08 (-0.32)	0.29 (1.20)	0.787
Insurance	-1.12 (-1.57)	-1.12 (-1.57)	0.18 (0.36)	0.721
Microfinance	0.37 (1.25)	0.37 (1.25)	-0.6 (-0.20)	0.840
Mobile banking	0.93 (2.27)	0.93 (2.27)	-0.69 (-1.37)	0.172
Pseudo R^2			0.40	
L R Chi^2			42.03	
No of observation			384	

5. Conclusion and Recommendation

The findings of this study demonstrate that income level plays a critical role in determining access to financial services in Imo State, Nigeria. Specifically, respondents with higher incomes were significantly more likely to access formal financial products and services, such as loans and savings facilities provided by microfinance banks (MFBs). This relationship confirms that financial inclusion is closely tied to economic standing and suggests that poverty limits not just income but also financial access.

The results further show that microfinance banks have a statistically significant

impact on improving the welfare of clients especially those in the middle-income brackets by providing financial support that promotes savings, enhances small-scale business operations, and reduces vulnerability to economic shocks. However, the poorest households appear to benefit less from these services, highlighting an inclusion gap that must be addressed.

The study also reveals regional disparities in microfinance coverage, with the Orlu zone having the highest concentration of MFBs and respondents. This spatial variation in service delivery points to the need for more equitable distribution of financial services across the state.

In conclusion, the evidence supports the assertion that increased access to formal financial services particularly through credit has the potential to reduce poverty in rural areas. However, the impact is more pronounced among those with better economic profiles. Therefore, deliberate strategies are needed to target the poorest populations to ensure that microfinance achieves its intended poverty reduction objectives.

Recommendation

1. The government, in collaboration with the Central Bank of Nigeria (CBN), should encourage the establishment of more microfinance bank branches in underserved rural communities. Improved physical proximity to financial institutions would enhance financial inclusion and empower rural dwellers to access savings, credit, and insurance services.
2. Microfinance banks should design flexible credit schemes tailored to the financial realities of rural poor households. Emphasis should be placed on reducing collateral requirements and interest rates to improve loan accessibility and affordability. Public-private partnerships could also subsidize interest rates for verified poor borrowers.
3. Inspired by the Grameen Bank's success in Bangladesh, microfinance banks should consider adopting group-based lending strategies. These models leverage peer pressure and mutual accountability, often resulting in higher repayment rates and wider financial inclusion for the unbanked.
4. Many rural residents lack the financial literacy needed to effectively manage credit and savings. MFBs, in partnership with NGOs and government agencies, should run training programs on budgeting, loan use, debt management, and investment skills to maximize the impact of financial services on household welfare.
5. Introducing and scaling digital financial platforms, such as mobile banking and USSD-based services, can significantly increase access to financial products, especially among rural populations who may not be near a physical bank branch. This would reduce transaction costs and promote savings.
6. Policymakers should review and revise microfinance regulatory frameworks to enhance operational efficiency, capital adequacy, and risk management practices in MFBs. Additionally, the creation of a dedicated Microfinance Development Fund should be fast-tracked to provide liquidity support for MFBs serving vulnerable populations.

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