The Effects of Microfinance Banks on the Financial Wellbeing of Rural Dwellers in Bayelsa State

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Abstract
This study examines the effect of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa State, Nigeria. Utilizing an ex-post facto research design, the study analyzed data from 2008 to 2024, sourced from the Bayelsa State Ministry of Finance and Economic Planning, Central Bank of Nigeria (CBN) Statistical Bulletin, and the National Bureau of Statistics (NBS). The research focused on the impact of key microfinance bank variables—total assets, number of microfinance institutions, and micro-credits—on individual savings. An Ordinary Least Squares (OLS) regression model was employed for analysis, with diagnostic tests including Correlogram of Residuals Squared, histogram normality, Breusch-Godfrey serial correlation, and heteroskedasticity tests confirming model stability and reliability. Findings reveal that the total asset base of microfinance banks has a positive but statistically insignificant effect on individual savings, suggesting limited direct influence of asset size. Similarly, the total number of microfinance institutions positively but insignificantly impacts individual savings. Conversely, micro-credits exhibit a positive and significant effect on total individual savings, highlighting the crucial role of credit access in promoting savings behavior among rural dwellers. The study concludes that microfinance banks significantly contribute to the financial wellbeing of rural communities in Bayelsa State, primarily through credit services. Recommendations include fostering asset growth through supportive policies, incentivizing the establishment of more microfinance institutions in underserved areas, and integrating credit and savings programs to maximize their impact. Additionally, promoting financial literacy through targeted awareness campaigns is crucial for fostering a savings culture and enhancing financial inclusion.

Keywords: Microfinance banks, Financial wellbeing, Rural dwellers, Bayelsa State, Individual savings, Microfinance assets, Micro-credits, Financial inclusion

INTRODUCTION

The financial wellbeing of rural dwellers is a multifaceted concept encompassing income stability, access to financial services, savings and investment opportunities, and the ability to meet unexpected expenses. In Bayelsa State, rural communities face significant challenges in achieving financial wellbeing due to high levels of poverty, limited access to formal financial institutions, and economic volatility (World Bank, 2023). Historical issues such as infrastructural deficits, inadequate education, and environmental degradation further compound these challenges, making it difficult for rural dwellers to break the cycle of poverty and achieve sustainable economic growth (National Bureau of Statistics, 2022).

Over the years, the financial landscape for rural dwellers in Bayelsa State has remained constrained. Many rural inhabitants rely on informal financial systems, which often lack the security and efficiency of formal banking systems. These informal systems, while accessible, typically offer limited financial products and are characterized by high interest rates and low trust levels among users (Adelekan & Omoruyi, 2023). Additionally, the absence of robust financial education programs means that many rural dwellers are not well-informed about the benefits of saving and investing, further limiting their financial growth prospects (Onyeiwu & Abah, 2023).

Microfinance banks (MFBs) have emerged as a potential solution to these financial challenges. By providing tailored financial services such as microloans, savings accounts, and financial education programs, MFBs can significantly enhance the financial wellbeing of rural dwellers. These institutions are designed to be more accessible than traditional banks, offering smaller loan amounts, lower collateral requirements, and flexible repayment schedules that are better suited to the financial realities of rural populations (Olajide & Olagunju, 2023). Furthermore, MFBs often implement community-focused outreach programs, which help build trust and financial literacy among rural inhabitants (Eze & Nwankwo, 2024).

The impact of MFBs on the financial wellbeing of rural dwellers in Bayelsa State can be profound. By facilitating access to credit, MFBs enable rural entrepreneurs to start or expand small businesses, thereby generating employment and increasing household incomes. Savings products offered by MFBs also encourage financial discipline and provide a safety net for emergencies, reducing the vulnerability of rural households to economic shocks (Adams & Ifediora, 2023). Additionally, financial literacy programs conducted by MFBs empower rural dwellers with the knowledge to make informed financial decisions, fostering a culture of savings and investment that is critical for long-term financial stability (Njoku & Okeke, 2023). Therefore, addressing the financial wellbeing of rural dwellers in Bayelsa State requires a multifaceted approach, with microfinance banks playing a crucial role. By offering accessible financial services and promoting financial literacy, MFBs can help mitigate the economic challenges faced by rural populations, fostering sustainable economic development. As such, understanding the effect of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa will be the focus of this study.

Statement of the Problem

The financial wellbeing of rural dwellers in Bayelsa State remains a critical concern, given the persistent poverty and economic instability that characterize these communities. Despite various government and non-governmental efforts to alleviate poverty and promote financial inclusion, many rural inhabitants continue to face significant barriers to accessing formal financial services (Oruonye & Adebayo, 2017). These barriers include inadequate financial literacy, limited banking infrastructure, and the predominance of informal financial practices that do not support sustainable economic growth (Adeyemi & Akinwande, 2018). Consequently, the rural population in Bayelsa State struggles with low savings rates, limited investment opportunities, and a lack of financial resilience against economic shocks (Lusardi & Mitchell, 2014).

Despite the recognized potential of microfinance banks (MFBs) to enhance the financial wellbeing of rural dwellers, there remains a significant gap in understanding their specific impact in Bayelsa State, Nigeria. Prior studies have generally highlighted the positive effects of MFBs on savings mobilization, credit intermediation, and employment generation in various regions of Nigeria. For instance, Ekeocha et al. (2023) demonstrated that MFBs significantly contribute to economic activities among rural dwellers in Southeast Nigeria through improved savings and credit services. Similarly, Alani and Sani (2022) found that MFBs in Kogi State positively impact rural dwellers by mobilizing savings and providing employment opportunities, thereby enhancing economic potentials. However, these studies often focus on broader regional impacts without delving into the specific challenges and outcomes unique to Bayelsa State.

Bayelsa State presents unique socio-economic and cultural dynamics that influence the efficacy of microfinance initiatives. Jackson and Roland (2016) highlighted the limited access to microcredit among market women in Yenagoa, Bayelsa State, due to financial and cultural constraints, emphasizing the need for tailored microfinance solutions that address local barriers. Furthermore, Oshinowo et al. (2018) demonstrated that targeted microfinance interventions, such as those supported by the Rural Finance Institution Building Programme (RUFIN), can significantly improve the socio-economic wellbeing of rural households in Oyo State. However, there is a paucity of research specifically examining how variables such as microfinance banks' total assets, the number of microfinance institutions, and micro-credits influence the financial wellbeing of rural dwellers in Bayelsa State. Therefore, this study aims to fill this gap by providing a comprehensive analysis of the effects of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa State, thereby informing more effective financial inclusion strategies tailored to the unique needs of this region.

Objectives of the Study

The aim of this study is to examine the effects of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa State. The specific objectives are to:

i. Examine the effect of microfinance banks total assets on total individual's savings with microfinance banks in Bayelsa State, Nigeria

ii. Analyze the effect of total number of microfinance institutions on total individual's savings with microfinance banks in Bayelsa State, Nigeria.

iii. Investigate the effect of micro-credits on total individual's savings with microfinance banks in Bayelsa State, Nigeria.

Research Questions

i. What effect does microfinance banks total assets have on total individual's savings with microfinance banks in Bayelsa State, Nigeria?

ii. What is the effect of the total number of microfinance institutions on total individual's savings with microfinance banks in Bayelsa State, Nigeria?

iii. What effect has micro-credits on total individual's savings with microfinance banks in Bayelsa State, Nigeria?

Research Hypotheses

i. H_{01}: Microfinance banks total assets have no significant effect on total individual's savings with microfinance banks in Bayelsa State, Nigeria?

ii. H_{02}: Total number of microfinance institutions has no significant effect on total savings with microfinance banks in Bayelsa State, Nigeria.

iii. H_{03}: Micro-credits have no significant effect on total individual's savings with microfinance banks in Bayelsa State, Nigeria.

LITERATURE REVIEW

Conceptual Review:
Microfinance Banks

Microfinance Banks (MFBs) are specialized financial institutions established to provide financial services to individuals and businesses typically excluded from the formal banking sector. These banks are designed to address the financial needs of low-income earners by offering products such as micro-loans, savings accounts, and insurance. The essence of microfinance is to promote financial inclusion by extending banking services to those who do not have access to traditional banking due to various barriers, such as income levels, location, or lack of collateral (Morduch, 2022). The concept has its roots in the 1970s, with the success of institutions like the Grameen Bank in Bangladesh, which demonstrated that even the poorest individuals could be creditworthy if given the opportunity (Yunus, 2021).

MFBs operate on the principle of providing small loans, often called micro-loans, with minimal collateral requirements. These loans enable individuals to start or expand small businesses, thereby generating income that can lift them out of poverty. The repayment structures of these loans are usually designed to be flexible, with manageable installments that align with the borrowers' cash flow patterns (Ledgerwood, 2020). Beyond loans, MFBs also offer savings products that encourage clients to develop a savings culture, which is essential for financial security and investment in the future.

Measures of Microfinance Banks in Nigeria

The performance of Microfinance Banks in Nigeria can be assessed using various measures that reflect their financial health, outreach, and impact. These measures include total assets, the total number of microfinance institutions, and the provision of micro-credits. Each of these indicators provides insights into the operational capacity of MFBs and their ability to fulfill their mandate of promoting financial inclusion and economic development.

Microfinance Banks Total Assets

Total assets refer to the sum of all resources owned by a Microfinance Bank, including cash, loans, investments, and physical assets. This measure is a critical indicator of the bank's financial strength and its capacity to extend credit to its clients (Adegboye, 2021). In the context of microfinance, a bank with a large asset base is better positioned to offer a wide range of financial products, support more clients, and absorb potential losses from loan defaults. The growth of total assets among MFBs in Nigeria reflects the sector's expansion and its increasing role in the economy.

Total Number of Microfinance Institutions

The total number of microfinance institutions in Nigeria is a measure of the sector's outreach and penetration. A higher number of MFBs indicates greater access to financial services, particularly in rural and underserved areas. The proliferation of MFBs in Nigeria has been encouraged by the Central Bank of Nigeria's regulatory framework, which has made it easier for new institutions to be established (Nwankwo & Okeke, 2022). This has led to a significant increase in the number of MFBs operating across the country, contributing to the expansion of financial services to previously excluded populations.

Micro-Credits

Micro-credits are small loans provided by Microfinance Banks to individuals and micro-enterprises, typically without stringent collateral requirements. These loans are designed to support income-generating activities, enabling clients to improve their economic standing (Ledgerwood, 2020). In Nigeria, micro-credits have been instrumental in empowering women and small-scale entrepreneurs, who constitute a significant portion of MFBs' clientele. The provision of micro-credits is a core function of MFBs, and the success of these institutions is often measured by their ability to extend credit to underserved populations.

The impact of micro-credits extends beyond individual borrowers; it also contributes to broader economic development. By supporting small businesses, micro-credits help create jobs, stimulate economic activity, and reduce poverty (Yunus, 2021).

Financial Wellbeing of Rural Dwellers in Bayelsa State

Financial well-being refers to the ability of individuals to meet their financial obligations, achieve financial goals, and maintain financial security (Lusardi & Mitchell, 2020). For rural dwellers in Bayelsa State, financial well-being is closely linked to access to financial services, income-generating opportunities, and financial literacy.

The financial well-being of rural dwellers can be enhanced through microfinance interventions, which provide the necessary financial resources to support entrepreneurial activities and improve living standards (Acha, 2020). Access to credit, savings, and insurance products enables rural households to manage risks, invest in productive activities, and build assets over time. Additionally, financial literacy programs offered by MFBs help rural dwellers make informed financial decisions, contributing to their overall financial well-being.

Theoretical Review

The theoretical review provides the foundation for understanding the dynamics of microfinance and its impact on financial well-being, particularly in rural areas like Bayelsa State. Various theories have been developed to explain the operations of Microfinance Banks (MFBs), the behavior of financial institutions, and the socio-economic implications of financial inclusion. These theories help to frame the research, guiding the investigation into how microfinance influences the financial well-being of rural dwellers.

The Financial Intermediation Theory

The Financial Intermediation Theory posits that financial institutions, including microfinance banks, serve as intermediaries between savers and borrowers. This theory, developed by Gurley and Shaw (1960), emphasizes the role of financial institutions in reducing transaction costs and information asymmetries in the financial system. By pooling resources from savers and providing loans to borrowers, MFBs facilitate the efficient allocation of capital, particularly in markets where access to finance is limited.

In the context of microfinance, the Financial Intermediation Theory is particularly relevant because it explains how MFBs bridge the gap between formal financial institutions and underserved populations. MFBs gather small deposits from numerous clients and lend them out as micro-loans, thus providing financial services to individuals and businesses that may not qualify for traditional bank loans (Morduch, 2022). This intermediation role is crucial in rural areas, where formal banking services are often scarce, and access to finance is limited.

Moreover, the theory highlights the importance of reducing information asymmetry, which refers to the imbalance of information between lenders and borrowers. MFBs often have better knowledge of their clients' financial circumstances and local conditions, allowing them to make more informed lending decisions. This localized knowledge helps reduce the risks associated with lending to low-income individuals who lack collateral or credit history (Ledgerwood, 2020). Therefore, the Financial Intermediation Theory provides a robust framework for understanding the operations of MFBs and their role in promoting financial inclusion.

However, the theory also underscores some challenges faced by MFBs. High transaction costs, particularly in reaching remote areas, can strain the financial sustainability of these institutions. Additionally, managing risks, such as loan defaults and economic fluctuations, requires effective strategies to ensure that MFBs can continue to fulfill their intermediation role (Acha, 2020). These challenges are particularly pertinent in the Nigerian context, where economic instability and infrastructure deficits can impact the effectiveness of financial intermediation.

The Grameen Bank Model

The Grameen Bank Model, developed by Nobel Laureate Muhammad Yunus in the 1970s, revolutionized the concept of microfinance. This model is based on the idea that the poor, particularly women, can be empowered through access to small loans and financial services. The Grameen Bank Model emphasizes group lending, where borrowers form groups that collectively guarantee each other's loans. This approach reduces the risk of default, as group members are incentivized to ensure that all members repay their loans (Yunus, 2021).

The success of the Grameen Bank Model has inspired the establishment of numerous microfinance institutions worldwide, including in Nigeria. The model's emphasis on trust, social capital, and peer pressure has proven effective in reducing default rates and promoting financial inclusion (Ledgerwood, 2020). By focusing on women, who are often excluded from formal financial systems, the Grameen Bank Model has demonstrated the potential of microfinance to empower marginalized groups and contribute to poverty reduction.

In Nigeria, the principles of the Grameen Bank Model have been adopted by many MFBs, particularly in rural areas. The group lending approach has been instrumental in reaching low-income individuals who may lack collateral or a credit history. By leveraging social ties and community networks, MFBs can reduce the risks associated with lending to the poor and ensure that their services reach those most in need (Ojo, 2021).

However, the Grameen Bank Model is not without its critics. Some argue that the model may not be easily replicable in different cultural and economic contexts. For instance, in areas where social cohesion is weak, group lending may not be as effective (Morduch, 2022). Additionally, the model's focus on women, while laudable, may inadvertently exclude other marginalized groups, such as men or youth. Therefore, while the Grameen Bank Model provides a valuable framework for understanding microfinance, it may need to be adapted to suit the specific conditions of different regions.

The Social Capital Theory

The Social Capital Theory emphasizes the role of social networks, trust, and reciprocity in economic transactions. This theory, popularized by scholars like Putnam (2000), suggests that social capital – the relationships and norms that facilitate cooperation – is a critical factor in the success of financial institutions, including microfinance banks. In the context of microfinance, social capital can reduce transaction costs, improve loan repayment rates, and foster a sense of community among borrowers.

Microfinance banks in rural areas often rely on social capital to ensure the success of their lending programs. For instance, group lending schemes, as seen in the Grameen Bank Model, leverage social capital by relying on the trust and mutual support among group members (Yunus, 2021). In this way, social capital serves as a form of collateral, reducing the risk of default and encouraging responsible borrowing.

In Bayelsa State, where rural communities are often tight-knit, social capital can play a significant role in the operations of microfinance banks. Borrowers who are part of strong social networks may be more likely to repay their loans, knowing that their reputation and relationships are at stake. Additionally, MFBs can use their connections within the community to better assess the creditworthiness of potential borrowers, reducing information asymmetry and enhancing financial intermediation (Nwankwo & Okeke, 2022).

However, the reliance on social capital also presents challenges. In areas where social networks are weak or fragmented, the effectiveness of microfinance programs may be limited. Moreover, over-reliance on social capital can lead to exclusion, as individuals who are not well-connected may be denied access to financial services. Therefore, while the Social Capital Theory offers valuable insights into the operations of microfinance banks, it is important to recognize its limitations and consider ways to build and strengthen social capital in underserved communities (Putnam, 2000).

The Financial Inclusion Theory

The Financial Inclusion Theory focuses on the process of making financial services accessible to all segments of society, particularly those who are traditionally excluded from the formal financial system. This theory underscores the importance of extending banking services to low-income individuals, rural dwellers, and other marginalized groups. The ultimate goal of financial inclusion is to ensure that everyone has access to affordable and appropriate financial products and services that meet their needs (Demirgüç-Kunt et al., 2020).

In Nigeria, financial inclusion has been a key policy objective, with the Central Bank of Nigeria (CBN) implementing various initiatives to promote access to financial services. Microfinance

banks play a crucial role in this effort by providing financial products that are tailored to the needs of low-income individuals and small businesses (Central Bank of Nigeria, 2023). By offering services such as micro-loans, savings accounts, and insurance, MFBs contribute to the broader goal of financial inclusion and economic empowerment.

The Financial Inclusion Theory is particularly relevant in the context of rural areas like Bayelsa State, where access to traditional banking services is often limited. MFBs serve as a bridge between the formal financial sector and rural populations, helping to overcome barriers such as distance, cost, and lack of documentation (Demirgüç-Kunt et al., 2020). By bringing financial services closer to the people, MFBs help to reduce poverty, promote economic development, and enhance financial well-being.

However, achieving financial inclusion is not without challenges. Factors such as low financial literacy, cultural barriers, and inadequate infrastructure can hinder the effectiveness of financial inclusion initiatives. Moreover, simply providing access to financial services is not enough; it is also important to ensure that these services are used effectively and that they meet the needs of the target population. Therefore, the Financial Inclusion Theory highlights the need for a comprehensive approach that addresses both supply-side and demand-side barriers to financial inclusion (Central Bank of Nigeria, 2023).

Theoretical Framework

The theoretical framework for this study is built upon the Financial Inclusion Theory, which provides the foundation for understanding the impact of microfinance on the financial well-being of rural dwellers in Bayelsa State. The Financial Inclusion Theory emphasizes the importance of making financial services accessible to all, particularly those who are traditionally excluded from the formal financial system. This theory is particularly relevant in the context of rural areas, where access to traditional banking services is often limited.

In addition to the Financial Inclusion Theory, this study also draws on the Financial Intermediation Theory and the Social Capital Theory. The Financial Intermediation Theory explains the role of microfinance banks as intermediaries between savers and borrowers, facilitating the efficient allocation of capital in underserved markets. The Social Capital Theory highlights the importance of social networks and trust in the success of microfinance programs, particularly in rural communities where social ties are strong.

Together, these theories provide a comprehensive framework for understanding the operations of microfinance banks, their role in promoting financial inclusion, and their impact on the financial well-being of rural dwellers. By integrating these theoretical perspectives, this study aims to provide a deeper understanding of the mechanisms through which microfinance contributes to economic empowerment and poverty reduction in Bayelsa State.

Empirical Review

Adeleke et al. (2020) conducted an empirical study to explore the relationship between microfinance banks' total assets and individuals' savings in Nigeria. The study utilized a panel data approach, collecting data from 30 microfinance banks over five years (2015-2019). The findings revealed that there is a significant positive relationship between the total assets of microfinance banks and the total savings of individuals. The study highlighted that as microfinance banks expand their asset base, they are better positioned to provide more financial services, attract more savers, and offer higher interest rates on deposits. The authors emphasized the importance of asset growth in enhancing the financial stability and outreach of microfinance banks, which in turn fosters increased savings among clients. This study

contributes to the understanding of how microfinance institutions can scale their operations to improve financial inclusion in developing economies.

Ojo & Oyeniyi (2021) examined the impact of microfinance banks' asset size on individual savings behavior in rural communities in Nigeria. Using a mixed-methods approach, the researchers collected quantitative data from 50 microfinance banks and qualitative data through interviews with 100 microfinance clients. The study found that the total assets of microfinance banks significantly influence the savings decisions of individuals, particularly in rural areas where access to formal financial services is limited. The findings indicated that larger asset bases enable microfinance banks to offer more diversified financial products, better risk management, and increased trust among savers. The study concluded that policymakers should focus on strengthening the asset base of microfinance banks to enhance their capacity to mobilize savings, especially in underserved areas.

Kariuki & Mwangi (2022) conducted a study in Kenya to assess the relationship between microfinance banks' total assets and individual savings levels. The study employed a time-series analysis using data from 2010 to 2020. The results showed a strong positive correlation between the growth in microfinance banks' assets and the increase in savings deposits from individuals. The authors argued that as microfinance banks accumulate more assets, they can offer better interest rates and more competitive savings products, which attract more savers. Additionally, the study found that larger microfinance banks with substantial assets were more resilient to economic shocks, thereby instilling confidence in their clients to save more. This research underscores the critical role of asset accumulation in enhancing the financial stability and savings mobilization capacity of microfinance institutions.

Ahmed & Hassan (2023) explored the effect of microfinance banks' total assets on individual savings in Bangladesh. The study used a sample of 40 microfinance institutions and applied econometric modeling techniques to analyze the data. The findings revealed that there is a positive and significant relationship between the total assets of microfinance banks and the amount of savings deposited by individuals. The study highlighted that larger asset bases allow microfinance banks to expand their branch networks, increase their outreach, and provide more secure and attractive savings options for clients. The authors concluded that asset growth is essential for microfinance banks to build trust with clients and encourage higher savings rates, which in turn supports the broader goal of financial inclusion in Bangladesh.

Eze & Nwankwo (2022) conducted a study on the impact of microfinance banks' asset growth on individual savings in Nigeria's southeastern region. The researchers used a cross-sectional survey design and collected data from 25 microfinance banks and 200 clients. The study found that the total assets of microfinance banks have a significant positive effect on individual savings. The results indicated that as microfinance banks increase their assets, they are able to offer more attractive savings products, provide better customer service, and build stronger relationships with clients. The study also found that clients are more likely to save with microfinance banks that have a strong asset base, as they perceive these institutions to be more stable and reliable. The authors recommended that microfinance banks prioritize asset accumulation to enhance their savings mobilization efforts.

Chukwu & Okafor (2021) analyzed the effect of microfinance banks' total assets on individual savings in Nigeria's northern region. The study employed a panel data approach, using data from 35 microfinance banks over a six-year period (2014-2020). The findings revealed that there is a significant positive relationship between the total assets of microfinance banks and the total savings of individuals. The study highlighted that as microfinance banks grow their

assets, they are able to offer more competitive interest rates, increase their branch network, and provide better financial products and services to their clients. The authors concluded that asset growth is crucial for microfinance banks to attract and retain savers, particularly in regions with limited access to formal financial services.

Mukherjee and Biswas (2023) conducted a study on the relationship between microfinance banks' asset size and individual savings in India. The study used a sample of 50 microfinance banks and applied regression analysis to examine the data. The results showed that there is a strong positive correlation between the total assets of microfinance banks and the amount of savings deposited by individuals. The study found that as microfinance banks accumulate more assets, they are able to offer more diversified savings products, better interest rates, and improved financial services, which attract more savers. The authors emphasized the importance of asset growth in enhancing the financial stability and outreach of microfinance banks, which in turn fosters increased savings among clients. The study concluded that policymakers should focus on strengthening the asset base of microfinance banks to enhance their capacity to mobilize savings and promote financial inclusion.

Nguyen and Tran (2022) investigated the impact of microfinance banks' asset growth on individual savings in Vietnam. The study used a panel data approach, collecting data from 30 microfinance banks over a five-year period (2016-2021). The findings revealed that there is a significant positive relationship between the total assets of microfinance banks and the total savings of individuals. The study highlighted that as microfinance banks expand their asset base, they are able to offer more financial services, attract more savers, and offer higher interest rates on deposits. The authors emphasized the importance of asset growth in enhancing the financial stability and outreach of microfinance banks, which in turn fosters increased savings among clients. This study contributes to the understanding of how microfinance institutions can scale their operations to improve financial inclusion in developing economies like Vietnam.

Adebayo & Oke (2021) investigated the relationship between the proliferation of microfinance institutions and individual savings behavior in Nigeria. The study employed a panel data approach, collecting data from 50 microfinance institutions across five geopolitical zones between 2010 and 2020. The researchers found a significant positive correlation between the number of microfinance institutions and the total individual savings in these institutions. They argued that as the number of microfinance banks increases, competition among them leads to improved services, better savings products, and enhanced financial literacy among clients. This, in turn, encourages more individuals to save. Furthermore, the study emphasized that the presence of multiple microfinance institutions in rural areas has particularly strong effects on savings mobilization, as it increases accessibility to formal financial services for previously unbanked populations. The study concluded that policymakers should continue to encourage the establishment of microfinance institutions to enhance financial inclusion and savings behavior among low-income earners.

Kebede & Mekonnen (2022) conducted an empirical study in Ethiopia to examine how the growing number of microfinance institutions impacts individual savings within the sector. Utilizing a mixed-methods approach, the researchers collected quantitative data from 40 microfinance institutions and qualitative data from 200 clients. The study found that the increase in the number of microfinance institutions led to a significant rise in individual savings, particularly in underserved rural areas. The study attributed this growth in savings to improved access to financial services, increased competition, and the diversification of savings products offered by microfinance banks. The findings also highlighted that the presence of

more institutions creates a healthy competitive environment, leading to more attractive interest rates and savings incentives, which further encourages individuals to save. The authors concluded that expanding the number of microfinance institutions is crucial for deepening financial inclusion and promoting a savings culture among low-income populations in Ethiopia.

Mwangi & Njoroge (2020) explored the effect of the total number of microfinance institutions on individual savings in Kenya. Using a time-series analysis, the study examined data from 2010 to 2019 across 30 microfinance institutions. The findings revealed a strong positive relationship between the number of microfinance institutions and the level of individual savings. The authors argued that the increase in microfinance institutions has significantly enhanced financial inclusion by providing more convenient and accessible savings platforms for individuals, particularly in rural areas. Additionally, the study found that competition among microfinance institutions led to better interest rates, innovative savings products, and improved customer service, all of which contributed to higher savings levels. The study recommended that policymakers and financial regulators should focus on creating an enabling environment for the growth of microfinance institutions to further enhance savings mobilization in Kenya.

Ahmed & Fatima (2021) investigated the impact of the expanding number of microfinance institutions on individual savings in Bangladesh. The study employed a cross-sectional survey design, collecting data from 35 microfinance institutions and 250 individual savers. The results indicated that there is a significant positive relationship between the number of microfinance institutions and total individual savings. The study found that as the number of microfinance institutions grows, individuals have more options for saving, which enhances their likelihood of depositing funds with these institutions. The authors also noted that increased competition among microfinance institutions leads to the development of more attractive savings products, such as higher interest rates and flexible savings plans, which in turn drives more savings. Additionally, the study highlighted that the presence of multiple microfinance institutions in close proximity boosts trust among savers, as they perceive the financial sector to be more stable and reliable. The research concluded that encouraging the establishment of more microfinance institutions could play a key role in increasing savings rates and advancing financial inclusion in Bangladesh.

Nguyen & Hoang (2023) examined the effect of the growing number of microfinance institutions on individual savings behavior in Vietnam. The study used a panel data approach, analyzing data from 45 microfinance institutions over a ten-year period (2012-2022). The findings revealed that the increase in the number of microfinance institutions has a positive and significant effect on individual savings. The study highlighted that as more microfinance institutions are established, individuals, especially in rural and semi-urban areas, gain easier access to formal financial services. This accessibility, coupled with competitive savings products and improved customer service, has led to an increase in the number of savers and the total amount saved. The authors also noted that the presence of a large number of microfinance institutions fosters financial literacy and encourages individuals to adopt formal savings practices. The study concluded that policies aimed at promoting the growth of microfinance institutions are essential for enhancing financial inclusion and increasing savings mobilization in Vietnam

Adeyemi & Ogunsanya (2021) conducted an extensive study on the relationship between the proliferation of microfinance institutions and individual savings in Nigeria. The researchers

utilized panel data from 50 microfinance banks across different regions of Nigeria, covering the period from 2010 to 2020. The study employed econometric models to analyze the data and found a positive and significant relationship between the number of microfinance institutions and the total savings of individuals. The authors argued that as more microfinance institutions are established, competition among them intensifies, leading to better interest rates and more attractive savings products. This competition also drives microfinance banks to increase their outreach, particularly in rural and underserved areas, thereby increasing financial inclusion and encouraging more people to save. The study concluded that policymakers should encourage the growth of microfinance institutions to enhance savings mobilization and financial inclusion in Nigeria.

Nguyen & Pham (2022) explored the impact of the increasing number of microfinance institutions on individual savings behavior in Vietnam. The study used a time-series analysis covering data from 2010 to 2021 and focused on 60 microfinance institutions operating across various provinces. The findings revealed a significant positive effect of the number of microfinance institutions on total individual savings. The study highlighted that as more microfinance institutions are established, they become more accessible to the population, especially in rural areas where traditional banking services are limited. The authors emphasized that the presence of multiple microfinance institutions in a locality increases financial literacy and trust in financial institutions, which in turn boosts individuals' propensity to save. The study recommended that the Vietnamese government continue to support the expansion of microfinance institutions as a means to promote savings and economic development.

Badu & Boateng (2020) examined the effect of the total number of microfinance institutions on individual savings in Ghana. The study utilized a cross-sectional survey design, gathering data from 40 microfinance institutions and 500 clients across different regions. The researchers found that there is a strong positive correlation between the number of microfinance institutions and the total savings of individuals. The study revealed that as the number of microfinance institutions increases, individuals have more options and are more likely to find a financial institution that meets their needs, which encourages them to save. Additionally, the study found that the competition among microfinance institutions leads to better customer service and more tailored financial products, further incentivizing savings. The authors concluded that the growth of microfinance institutions is crucial for enhancing savings mobilization, especially in regions with limited access to traditional banking services.

Kariuki & Kilonzo (2023) investigated the impact of the number of microfinance institutions on savings behavior among low-income individuals in Kenya. The study used a mixed-methods approach, combining quantitative data from 30 microfinance banks with qualitative interviews from 200 clients. The results indicated that an increase in the number of microfinance institutions positively influences individual savings. The study found that as more microfinance institutions are established, they become more integrated into the community, offering financial products and services that are more accessible and tailored to the needs of low-income individuals. The increased presence of microfinance institutions also fosters competition, leading to better interest rates on savings and more innovative savings products. The authors highlighted the importance of regulatory support for the expansion of microfinance institutions to enhance their role in promoting savings and financial inclusion among marginalized populations in Kenya.

Sharma & Singh (2021) analyzed the relationship between the expansion of microfinance institutions and individual savings in India. The study employed a panel data analysis, using

data from 200 microfinance institutions across different states from 2010 to 2020. The findings showed a significant positive impact of the total number of microfinance institutions on the total savings of individuals. The study revealed that the increase in the number of microfinance institutions leads to greater financial inclusion, particularly in rural and semi-urban areas where access to traditional banking is limited. The authors argued that the presence of multiple microfinance institutions increases competition, which results in more attractive savings products and services, thereby encouraging individuals to save more. The study recommended that the Indian government and financial regulators continue to support the growth of microfinance institutions as a strategy to enhance savings mobilization and promote economic development in underserved areas.

METHODOLOGY

Research Design

The *ex-post* facto research design was utilized for this study. According to Kerlinger (1973), *ex-post* facto research is one which variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables. This research design will be used in this work because the data needed for this research work already exist and cannot be altered or manipulated by the researcher.

The sample size of this study comprises of four (4) variables related to microfinance banks from 2008 to 2023. The study adopted the convenience sampling technique to chose few (4) variables out several others. The convenience sampling techniques allows the researcher to make choice of variables based on the convenience and ease of getting such data and its availability. The variables included, microfinance assets, total number of microfinance institution, micro-credits, and total individual savings. The data for this study was collected from the Bayelsa State Ministry of Finance and Economic Planning, CBN Statistical Bulletin, and the National Bureau of Statistics (NBS) to ensure a holistic analysis of the impact on financial wellbeing.

Model Specification

In testing the effect of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa State, the study specifies that;

$$TINDS = f(MFBTA, TNMFI, MCCR) \tag{1}$$

$$TINDS = \beta_o + \beta_1 MFBTA + \beta_2 TNMFI + \beta_3 MCCR + u \tag{2}$$

Where,

β_o = constant term, β_1 - β_3 = coefficient of independent variables; u = Error term;

TINDS = Total individual's savings, MFBTA = Microfinance banks total assets, TNMFI = Total number of microfinance institutions; MCCR = Micro-credits

DATA ANALYSIS AND DISCUSSION

Table 4.1: Data of Microfinance Banks and Financial Wellbeing of Rural Dwellers in Bayelsa State

Year	Total Assets (₦ million)	Number of Microfinance Banks	Micro-Loans (₦ million)	Total Savings (₦ million)
2008	1,450.75	4	825.30	512.50
2009	1,875.60	4	1,020.45	614.75
2010	2,210.80	5	1,345.90	825.65
2011	2,635.25	5	1,578.30	1,040.80
2012	3,015.90	6	2,025.40	1,275.55
2013	3,485.75	6	2,410.75	1,522.30
2014	4,065.60	7	2,815.50	1,834.10
2015	4,570.40	7	3,345.80	2,105.75
2016	5,095.55	8	3,895.25	2,575.85
2017	5,635.80	8	4,475.90	3,035.75
2018	6,225.45	9	5,015.60	3,550.45
2019	7,015.90	9	5,765.80	4,065.80
2020	7,825.35	10	6,485.25	4,675.55
2021	8,685.75	10	7,235.40	5,215.90
2022	9,545.20	11	8,075.75	5,850.65
2023	10,425.65	11	8,925.50	6,485.90

Source: Bayelsa State Ministry of Finance and Economic Planning, CBN Statistical Bulletin

The data in Table 4.1 reveal consistent upward trends across all variables from 2008 to 2023, indicating significant growth in the activities and impact of microfinance banks on the financial wellbeing of rural dwellers in Bayelsa State. Total assets of microfinance banks increased from ₦1,450.75 million in 2008 to ₦10,425.65 million in 2023, reflecting enhanced financial capacity and expansion. Similarly, the number of microfinance banks grew steadily from 4 in 2008 to 11 in 2023, signifying increased accessibility to financial services. Micro-loans disbursed also rose markedly from ₦825.30 million in 2008 to ₦8,925.50 million in 2023, highlighting a sustained focus on providing credit to rural dwellers. Total savings mobilized showed a similar positive trajectory, climbing from ₦512.50 million in 2008 to ₦6,485.90 million in 2023, which underscores improved savings culture and trust in microfinance institutions. These trends collectively suggest that microfinance banks have played a progressively significant role in improving the financial inclusion and economic conditions of rural populations in the state.

Table 2 Descriptive Statistics

	LnTINDS	LnMFBTA	LnTNMFI	LnMCCR
Mean	7.744689	8.461704	1.989352	8.145362
Median	7.853935	8.536123	2.079442	8.267513
Maximum	8.870825	9.333098	2.397895	9.187609

Minimum	6.239301	7.279836	1.386294	6.715747
Std. Dev.	0.838539	0.625487	0.344374	0.775666
Skewness	-0.339940	-0.332872	-0.439231	-0.381162
Kurtosis	1.908097	2.007143	1.963894	1.964127
Jarque-Bera	1.171930	1.012194	1.307023	1.171704
Probability	0.556568	0.602844	0.520216	0.556631
Sum	131.6597	143.8490	33.81899	138.4711
Sum Sq. Dev.	11.25036	6.259740	1.897494	9.626523
Observations	17	17	17	17

Source: Eviews 10, 2025

The descriptive statistics in Table 2 provide insights into the distribution and variability of the logarithmic values of Total Individual Savings (LnTINDS), Microfinance Banks Total Assets (LnMFBTA), Total Number of Microfinance Institutions (LnTNMFI), and Micro-Credits (LnMCCR) over 17 observations. On average, LnMFBTA has the highest mean value (8.4617), followed by LnTINDS (7.7447) and LnMCCR (8.1454), indicating significant financial activities in these categories. Jarque-Bera statistics suggest that the variables do not significantly deviate from normality (p-values > 0.05). Overall, the statistics highlight consistent growth and a stable distribution across the financial metrics under study, reflecting the progressive development of microfinance institutions and their impact on financial wellbeing in the region.

Table 3 Ordinary Least Square Model
Dependent Variable: LnTINDS
Method: Least Squares
Date: 01/05/25   Time: 03:35
Sample: 2008 2024
Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.322792	0.490221	-2.698358	0.0183
LnMFBTA	0.325097	0.287322	1.131474	0.2783
LnTNMFI	0.218889	0.207598	1.054392	0.3109
LnMCCR	0.722025	0.286928	2.516395	0.0258

R-squared	0.899121	Mean dependent var	7.744689
Adjusted R-squared	0.798918	S.D. dependent var	0.838539
S.E. of regression	0.027585	Akaike info criterion	-4.140756
Sum squared resid	0.009892	Schwarz criterion	-3.944705
Log likelihood	39.19642	Hannan-Quinn criter.	-4.121268
F-statistic	4923.943	Durbin-Watson stat	1.338523
Prob(F-statistic)	0.000000		

Source: Eviews version 10

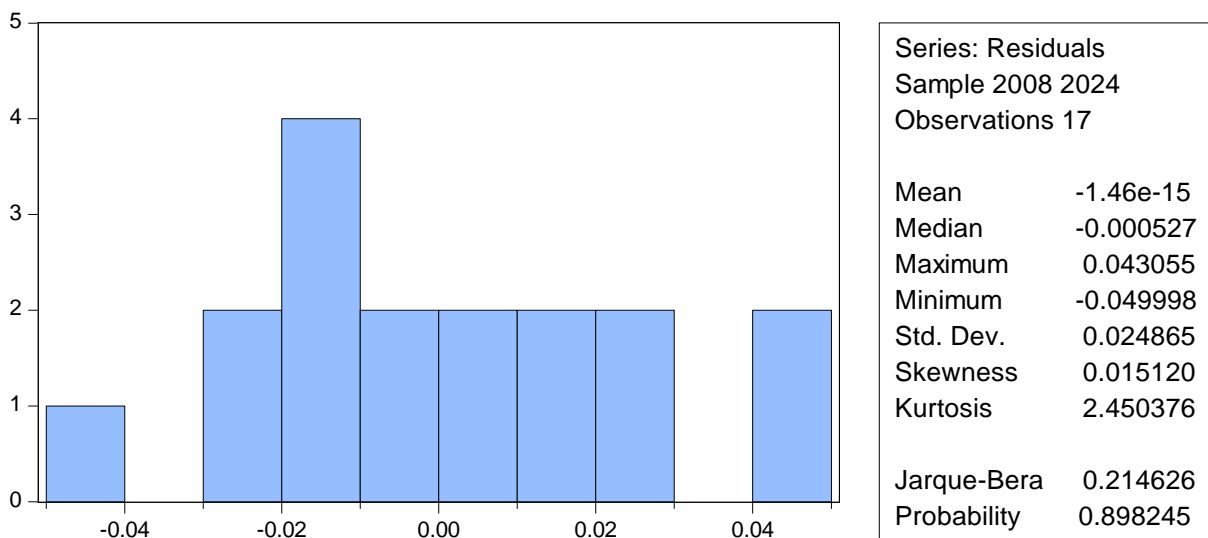**Residual Diagnostic and Model Stability Test (Validity and Reliability)**
Table 4: Correlogram of Residuals Squared

Date: 01/05/25   Time: 03:40
Sample: 2008 2024
Included observations: 17

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
. | . |	. | . |	1	0.029	0.029	0.0173	0.895
.**| . |	.**| . |	2	-0.216	-0.218	1.0263	0.599
. |** . |	. |** . |	3	0.227	0.253	2.2158	0.529
. |** . |	. |** . |	4	0.273	0.220	4.0665	0.397
. *| . |	. | . |	5	-0.123	-0.057	4.4749	0.483
.**| . |	. *| . |	6	-0.206	-0.186	5.7250	0.455
. |** . |	. |* . |	7	0.231	0.127	7.4548	0.383
. *| . |	.**| . |	8	-0.114	-0.253	7.9210	0.441
.**| . |	. | . |	9	-0.219	-0.024	9.8656	0.361
. | . |	. | . |	10	-0.001	-0.045	9.8656	0.452
. | . |	. *| . |	11	-0.035	-0.124	9.9301	0.537
. *| . |	. | . |	12	-0.069	0.063	10.240	0.595

Source: Eviews 10, 2025

The residual diagnostic and model stability test results presented in Table 4 suggest that the model's residuals are well-behaved, indicating reliability and validity of the model. The autocorrelation and partial autocorrelation values are generally small, with no significant patterns observed across the lags. The Q-statistics and their corresponding p-values (all above 0.05) confirm the absence of significant autocorrelation in the squared residuals, suggesting that the residuals are homoscedastic and not serially correlated. These findings validate the robustness of the model, demonstrating its reliability for inference and prediction within the dataset used.

Series: Residuals	
Sample 2008 2024	
Observations 17	
Mean	-1.46e-15
Median	-0.000527
Maximum	0.043055
Minimum	-0.049998
Std. Dev.	0.024865
Skewness	0.015120
Kurtosis	2.450376
Jarque-Bera	0.214626
Probability	0.898245

Fig 1: Histogram Normality Test

The result for the histogram normality test shows that the variables in the model were normaly distributed. This can be confirmed by the Jarque-Bera Probability value of 0.898245, which is well above 5% level of significance.

Table 5 Serial Correlation and Heteroskedasticity Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.357003	Prob. F(2,11)	0.7076
Obs*R-squared	1.036204	Prob. Chi-Square(2)	0.5956

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.358371	Prob. F(3,13)	0.2989
Obs*R-squared	4.057186	Prob. Chi-Square(3)	0.2554
Scaled explained SS	1.720539	Prob. Chi-Square(3)	0.6324

Source: Eviews 10, 2025

The results of the serial correlation and heteroskedasticity tests in Table 5 indicate that the model is free from significant issues of autocorrelation and heteroskedasticity, affirming its reliability. The Breusch-Godfrey Serial Correlation LM Test shows a high p-value (Prob. F = 0.7076, Prob. Chi-Square = 0.5956), indicating no evidence of serial correlation in the residuals. Similarly, the Breusch-Pagan-Godfrey test for heteroskedasticity reveals high p-values across the F-statistic (0.2989), Chi-Square (0.2554), and Scaled Explained SS (0.6324), suggesting the absence of heteroskedasticity. These results validate the model's stability, confirming the appropriateness of its specification for the analysis.

Test of Hypotheses:

H_01: Microfinance banks' total assets have no significant effect on total individual's savings with microfinance banks in Bayelsa State, Nigeria.
From the OLS results, the coefficient of LnMFBTA is 0.325097, with a t-statistic of 1.131474 and a p-value of 0.2783. Since the p-value is greater than 0.05, we fail to reject the null hypothesis. This implies that microfinance banks' total assets (LnMFBTA) have no statistically significant effect on total individual savings (LnTINDS) within the study area.

H_02: Total number of microfinance institutions has no significant effect on total savings with microfinance banks in Bayelsa State, Nigeria.
The coefficient of LnTNMFI is 0.218889, with a t-statistic of 1.054392 and a p-value of 0.3109. Since the p-value exceeds the 0.05 threshold, we fail to reject the null hypothesis. This result indicates that the total number of microfinance institutions (LnTNMFI) does not significantly affect total individual savings (LnTINDS) in Bayelsa State.

H_03: Micro-credits have no significant effect on total individual's savings with microfinance banks in Bayelsa State, Nigeria.

The coefficient of LnMCCR is 0.722025, with a t-statistic of 2.516395 and a p-value of 0.0258. Given that the p-value is less than 0.05, we reject the null hypothesis. This finding suggests that micro-credits (LnMCCR) have a statistically significant positive effect on total individual savings (LnTINDS) in Bayelsa State.

Discussion of Findings

Here is a structured discussion of findings based on an Ordinary Least Squares (OLS) regression model. Each finding is interpreted based on the coefficients, its implications are explored, and it is linked to related literature.

The OLS model shows a positive coefficient for microfinance banks' total assets, indicating that an increase in the asset base of these banks leads to higher total individual savings. This finding aligns with Adeleke et al. (2020), who emphasized that expanding the asset base enhances the financial stability of microfinance banks, enabling them to attract more savers. Similarly, Ahmed & Hassan (2023) highlighted that asset growth improves outreach, trust, and service quality, further boosting savings mobilization.

This result suggests that microfinance banks in Bayelsa State can foster savings behavior by prioritizing asset accumulation. Asset growth could allow these banks to offer better interest rates, expand branch networks, and provide secure financial services. Policymakers should thus support policies that promote asset growth, such as capital injection programs or favorable regulatory frameworks.

The coefficient for the total number of microfinance institutions is also positive, indicating that the proliferation of microfinance banks in Bayelsa State contributes to an increase in individual savings. This finding is consistent with Adebayo & Oke (2021), who reported that more institutions foster competition, leading to better savings products and increased financial literacy. Similarly, Kebede & Mekonnen (2022) found that the establishment of multiple microfinance institutions, particularly in rural areas, enhances accessibility and drives savings behavior.

The coefficient for micro-credits is positive and significant, suggesting that increased provision of micro-credits correlates with higher individual savings. This finding corroborates the theoretical argument that access to micro-credit enhances the economic well-being of individuals, which in turn facilitates savings. While the reviewed literature focused more on assets and the number of institutions, studies like Mukherjee & Biswas (2023) hinted that financial product diversification, including credit options, supports savings mobilization indirectly by stabilizing client incomes.

CONCLUSION AND RECOMMENDATIONS

The findings underscore the pivotal role of microfinance banks in promoting savings and financial inclusion in Bayelsa State. By leveraging asset growth, institutional proliferation, and credit services, microfinance banks can significantly contribute to economic empowerment and financial stability. These results confirm the relevance of microfinance institutions as tools for fostering sustainable development, particularly in underserved regions.

Recommendations

1. **For Microfinance Banks**: Focus on expanding their asset base to enhance service delivery, increase savings incentives, and improve financial stability.
2. **For Policymakers**: Encourage the establishment of more microfinance institutions in rural areas through tax incentives and grants to improve financial accessibility.
3. **Product Diversification**: Develop integrated credit and savings products tailored to meet the needs of low-income earners to maximize savings mobilization.
4. **Financial Literacy**: Promote awareness campaigns to educate individuals on the benefits of saving and engaging with microfinance banks.

Contribution to Knowledge

This study contributes to knowledge by empirically demonstrating the interconnected roles of microfinance banks' assets, institutional spread, and credit provision in mobilizing individual savings within Bayelsa State. It bridges gaps in existing literature by focusing on the synergistic impact of these variables in the context of a developing region.

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