Impact of Regulatory Influence on Financial Performance of National Microfinance Banks in Nigeria

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ABSTRACT

While existing literature has acknowledged the pivotal role of regulatory measures in shaping the operational landscape of financial institutions, there remains a notable gap in understanding the direct consequences of such regulations on the financial performance of NMBs in Nigeria. This study explores the impact of regulatory measures, specifically sanctions, penalties, and Minimum Capital Requirement (MCR), imposed by the Central Bank of Nigeria (CBN) on the financial performance of NMBs. This research adopts an ex-post facto research design, using data from the past six years of seven operational NMBs. The Agency Theory and Pecking Order Theory provide theoretical frameworks to interpret these relationships. The study reveals that regulatory measures significantly influence the allocation of micro loans within NMBs, reflecting the alignment of managers' interests with those of stakeholders. However, regulatory factors alone do not adequately explain variations in ROA, indicating the presence of complex and unexamined factors affecting financial performance. Individual regulatory variables, such as sanctions, penalties, and MCR, also do not have a significant multivariate impact on RMLT or ROA. The study recommends that Nigerian National Microfinance Banks (NMBs) should closely monitor and adapt to Central Bank regulations, particularly regarding sanctions, penalties, and Minimum Capital Requirement, despite the absence of a direct multivariate link to financial performance indicators; it also advises diversifying strategies to enhance Returns on Assets (ROA) and suggests further research for a deeper understanding of NMB sustainability dynamics.

Keywords: Regulatory, Financial Performance, Sanctions, Minimum Capital Requirement, Financial Inclusion

INTRODUCTION

In recent times, there have been notable changes to the Nigerian financial sector, and microfinance institutions have been instrumental in promoting financial inclusion and bolstering economic growth. National Microfinance Banks (NMBs) in Nigeria serve as critical conduits for providing financial services to underserved and economically disadvantaged populations, enabling them to access credit, savings, and other essential financial products (Adesua, 2019). As these NMBs operate within a regulated environment set by the Central Bank of Nigeria (CBN), it becomes essential to explore the regulatory dynamics and their impact on the financial performance of these institutions (Emekter et al., 2015). This research study seeks to

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examine the regulatory influence on the financial performance of National Microfinance Banks in Nigeria, with a specific focus on the relationships between regulatory measures and key performance indicators.

One of the key regulatory mechanisms employed by the Central Bank of Nigeria to ensure the soundness and stability of the microfinance sector is the imposition of sanctions and penalties for non-compliance with established guidelines. These penalties serve as deterrence mechanisms to encourage adherence to prudent financial practices, thereby safeguarding the interests of depositors and maintaining the credibility of the financial system (Ogbeide and Lucky, 2019). This study aims to evaluate the relationship between the sanctions and penalties resulting from Central Bank regulations and the ratio of micro loans to total loans in National Microfinance Banks. The micro loans to total loans ratio are a critical indicator of the institution's focus on serving the underserved segments of the population. Investigating this relationship provides insights into whether regulatory pressures influence the allocation of loans towards microfinance activities.

Minimum Capital Requirement (MCR) is a fundamental regulatory directive that mandates financial institutions to maintain a certain level of capital as a safety buffer against potential losses (Oloko and Ilemobade, 2020). The imposition of MCR by the Central Bank reflects its commitment to ensuring the stability and solvency of financial institutions. This research endeavour seeks to investigate the influence of the MCR imposed by Central Bank regulations on Returns on Assets (ROA) in National Microfinance Banks. ROA is a critical metric that measures an institution's ability to generate profits relative to its total assets. Exploring this relationship enables a nuanced understanding of whether the capital requirements have a discernible impact on the financial performance and risk-taking behaviour of NMBs.

Returns on Equity (ROE) represent the profitability of an institution from the perspective of its shareholders. The imposition of Minimum Capital Requirement is intended to bolster the equity base of institutions, enhancing their capacity to absorb losses and thereby safeguarding shareholder interests (Abubakar and Obid, 2018). This research segment aims to assess the effect of the Minimum Capital Requirement imposed by Central Bank regulations on Returns on Equity in National Microfinance Banks. Analysing this relationship contributes to unravelling the intricate interplay between regulatory capital mandates and the financial gains accrued by equity holders.

The financial landscape in Nigeria is marked by the significant role played by National Microfinance Banks (NMBs) in fostering financial inclusion and driving economic development. As these institutions operate within a regulated framework, established by the Central Bank of Nigeria (CBN), it becomes essential to delve into the intricate dynamics between regulatory measures and the financial performance of NMBs. This research study seeks to address the gaps in our understanding by examining the regulatory influence on the financial performance of NMBs in Nigeria. Specifically, the study aims to explore the impact of sanctions and penalties resulting from Central Bank regulations on the ratio of micro loans to total loans, the influence of Minimum Capital Requirement (MCR) on Returns on Assets (ROA), and the effect of MCR on Returns on Equity (ROE) in NMBs.

While existing literature has acknowledged the pivotal role of regulatory measures in shaping the operational landscape of financial institutions (Amidu, 2016; Oladipupo et al., 2019), there remains a notable gap in understanding the direct consequences of such regulations on the financial performance of NMBs in Nigeria. Prior research has primarily focused on the impact of regulations on overall banking sector stability and the broad implications for economic growth, leaving a void in terms of a detailed examination of specific indicators within the microfinance sector.

Furthermore, the dynamics between regulatory actions, such as sanctions and penalties, and their subsequent influence on micro loans allocation, Returns on Assets, and Returns on Equity within the context of NMBs have not been adequately explored. While some studies have investigated the impact of regulations on financial performance metrics for traditional banks (Okafor and Egbunike, 2016; Ujunwa and Okoye, 2017),

the unique characteristics of microfinance banks and the specialized nature of their operations necessitate a dedicated investigation.

This study carries substantial significance as it addresses these gaps in the existing literature by focusing on the specific impact of regulatory measures on key financial performance indicators within the realm of National Microfinance Banks in Nigeria. By examining the relationships between sanctions and penalties, Minimum Capital Requirement, and financial performance metrics, this research intends to provide insights that can inform policy decisions, enhance regulatory frameworks, and guide the strategic decision-making processes of microfinance practitioners.

Objectives to the Study

The following research objectives was formulated

1. To assess the extent of the relationship between sanctions and penalties resulting from Central Bank regulations and the Ratio of Micro Loans to Total Loans in National Microfinance Banks.
2. To investigate the extent of the relationship between the Minimum Capital Requirement imposed by Central Bank regulations and Returns on Assets in National Microfinance Banks.

The study hypotheses are as follows:

H_{01}: There is no significant relationship between sanctions and penalties resulting from Central Bank regulations and the Ratio of Micro Loans to Total Loans in National Microfinance Banks.

H_{02}: There is no significant relationship between Minimum Capital Requirement imposed by Central Bank regulations significantly influences Returns on Assets in National Microfinance Banks.

LITERATURE REVIEW

Conceptual Clarification

CBN Regulations

Regulations encompass a set of authoritative directives and guidelines established by regulatory bodies, primarily the Central Bank of Nigeria (CBN), to ensure the proper functioning, stability, and compliance within the microfinance sector. These regulations are designed to maintain the integrity of financial operations, safeguard the interests of stakeholders, and foster sustainable growth within National Microfinance Banks (NMBs) (Ogbeide and Lucky, 2019; Emekter et al., 2015). They play a crucial role in shaping the operational landscape of NMBs and influencing their strategic decisions in meeting regulatory expectations.

Sanctions and Penalties

Sanctions and penalties are punitive measures enforced by regulatory authorities, particularly the CBN, in response to violations of established regulatory guidelines by NMBs. These consequences serve as deterrence mechanisms to discourage non-compliance and ensure adherence to prudent financial practices. By imposing sanctions and penalties, regulatory bodies aim to uphold the credibility and security of the financial system (Ogbeide and Lucky, 2019; Ogbonna et al., 2020). The application of sanctions and penalties can impact the behaviour of NMBs, influencing their risk management practices and operational

decisions.

Minimum Capital Requirement (MCR)

Minimum Capital Requirement (MCR) refers to the mandatory threshold of capital that NMBs are required to maintain, as stipulated by Central Bank regulations. MCR is a regulatory mechanism aimed at enhancing the financial stability and solvency of NMBs by ensuring they possess an adequate capital buffer to absorb potential losses (Oloko and Ilemobade, 2020; Abubakar and Obid, 2018). Compliance with MCR reinforces the institution's ability to withstand financial shocks and engenders depositor confidence.

Financial Performance

Financial performances encompass a spectrum of key indicators that collectively reflect the operational efficiency, profitability, and stability of National Microfinance Banks (NMBs). These indicators are pivotal in assessing the overall health and effectiveness of NMBs in fulfilling their socio-economic roles within the microfinance landscape (Adesua, 2019).

The Ratio of Micro Loans to Total Loans quantifies the proportion of loans allocated specifically for microfinance activities relative to the entire loan portfolio of NMBs. This indicator is a reflection of the institution's commitment to providing financial access to marginalized segments of the population, thereby promoting financial inclusion and contributing to poverty alleviation (Ogbonna et al., 2020). The ratio underscores the extent to which NMBs prioritize serving the underserved through microfinance initiatives.

Returns on Assets (ROA) assess the profitability of NMBs by measuring the net income generated relative to their total assets. ROA is a pivotal metric that provides insights into the efficiency of asset utilization and the ability of NMBs to effectively deploy resources to generate earnings (Emekter et al., 2015). It is indicative of the institution's capacity to generate profits while managing operational costs and risks.

Empirical Review

A thorough review of the empirical landscape concerning the regulatory impact on the financial performance of National Microfinance Banks (NMBs) in Nigeria highlights a corpus of studies that contribute diverse perspectives to the intricate relationship between regulatory mechanisms and financial outcomes. The ensuing review encapsulates a representative cross-section of research inquiries, each shedding light on distinct facets of the regulatory influence, while concurrently discerning pertinent research gaps:

Ogbeide and Lucky (2019) undertook a comprehensive exploration into the nexus between the regulatory milieu and the financial performance of microfinance institutions in Nigeria. While their study provided valuable insights into the broader regulatory context, it omits an examination of the specific repercussions stemming from sanctions, penalties, and Minimum Capital Requirement. Thus, a discernible research lacuna emerges in discerning the precise impact of these regulatory levers on the tangible financial metrics within NMBs. In a parallel vein, Nwachukwu et al. (2021) meticulously unravelled the intricate role of microfinance in propelling economic development within Nigeria. However, while their research shed light on the socio-economic implications, a meticulous analysis of the translation of regulatory provisions into quantifiable financial performance outcomes for NMBs remains scarce. Addressing this hiatus would precipitate a more nuanced understanding of the microfinance landscape, where regulatory interplay is a critical determinant.

Akinlo (2020) navigated the labyrinth of the relationship between microfinance institutions and the broader economic developmental fabric in Nigeria. Yet, in its concentration on macro-level implications, this

research sidesteps the finer granularity of dissecting the regulatory underpinnings that fundamentally shape the financial well-being of NMBs. This omission manifests as an apparent chasm in comprehending the intermediate regulatory steps that intricately mould the trajectory of financial performance. By contrast, Emekter et al. (2015) meticulously assessed credit risk and loan performance within a Nigerian bank's loan portfolio. Regrettably, the study refrains from an explicit engagement with the influence of regulatory actions on the allocation dynamics of micro loans, and by extension, the broader financial ramifications. This deliberative gap accentuates the demand for regulatory-centric analyses that can meaningfully underpin the contours of microfinance performance.

Smith et al. (2018) embarked on a trajectory of investigating the determinants of profitability within microfinance institutions in Nigeria. However, their research inadvertently skirts the regulatory dimensions that possess the potential to significantly mould these profitability benchmarks. As a result, an identified void arises in elucidating how regulatory tenets actively shape the profitability landscape of NMBs. The oeuvre by Yakubu and Atofor (2017) probed into the myriad challenges confronting microfinance institutions in Nigeria. Yet, an inclination away from extensive regulatory inquiry inadvertently suppresses a comprehensive understanding of how regulations intermingle with these challenges to exert a definitive influence on financial performance outcomes.

The discourse by Okpe (2016) artfully navigated the terrain of microfinance's impact on poverty alleviation in Nigeria. Regrettably, the investigation into socio-economic implications slightly overshadows an exhaustive investigation into the intricate interrelationship between regulations and the financial underpinnings that propel these socio-economic impacts. Akintoye and Oyinlola (2020) diligently dissected the determinants of financial inclusion in Nigeria. While adept at identifying determinants, the research potentially understates the significance of scrutinizing the regulatory underpinnings that intricately govern and propel financial inclusion efforts within the microfinance landscape.

Idode and Ifurueze (2018) inquired into the link between microfinance and women's empowerment in Nigeria. However, their analysis may not have meticulously probed the intricate interplay between specific regulatory measures and the operational dynamics of microfinance institutions that, in turn, modulate outcomes. Concurrently, Ezeoha et al. (2017) traversed the impact of microfinance on small and medium-sized enterprises (SMEs) within Nigeria. Yet, their insights might have inadvertently bypassed the granular scrutiny of the regulatory dynamics that profoundly shape the interface between microfinance institutions and SMEs' financial performance.

As these studies converge within the empirical discourse, a discernible pattern emerges-a consistent void in the comprehensive analysis of the direct, specific influence of Central Bank regulations, spanning sanctions, penalties, and Minimum Capital Requirement, on pivotal financial performance indicators within the domain of National Microfinance Banks (NMBs) in Nigeria. This conspicuous research gap underscores the compelling exigency of the present study, which endeavours to traverse this scholarly void by embarking on an exhaustive, meticulous scrutiny of the regulatory intricacies and their resounding, consequential impact on the financial trajectory of NMBs. In so doing, this research not only enriches the empirical landscape but also amplifies the understanding of the regulatory imperatives that underpin NMBs' financial performance outcomes.

Theoretical Framework

In the context of examining the regulatory influence on the financial performance of National Microfinance Banks (NMBs) in Nigeria, two theories emerge as valuable frameworks for understanding the intricate dynamics and causal relationships underlying this complex relationship. These theories are the Agency

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Theory and the Pecking Order Theory.

Agency Theory

Agency Theory postulates that conflicts of interest arise between principals (owners or shareholders) and agents (management or employees) due to differing goals and risk appetites. The theory asserts that agents might not always act in the best interests of principals, leading to a principal-agent problem, which can be mitigated through contracts, incentives, monitoring mechanisms, and alignment of interests (Jensen & Meckling, 1976).

In the context of NMBs, Agency Theory is relevant in deciphering how the regulatory framework serves as a mechanism to align the interests of microfinance bank managers (agents) with those of shareholders and stakeholders (principals). The study can explore how regulatory measures, such as penalties for non-compliance or capital requirements, work to reduce the principal-agent conflict by incentivizing managers to make decisions that are aligned with the institution's long-term financial health and stakeholders' interests.

Pecking Order Theory:

The Pecking Order Theory, proposed by Myers and Majluf (1984), suggests that firms prioritize funding sources based on their cost and accessibility. Firms prefer internal funds, followed by debt, and then external equity. This theory argues that firms will only resort to external financing when internal resources and debt are insufficient, owing to information asymmetry issues between managers and investors.

In the context of NMBs, the Pecking Order Theory can shed light on how regulatory measures such as Minimum Capital Requirement influence NMBs' financial performance. The theory suggests that banks will prioritize retained earnings and debt financing to meet capital requirements before resorting to external equity issuance. The study could explore whether compliance with these regulatory capital requirements affects the choice of funding sources and its subsequent impact on returns on equity and other financial performance metrics.

METHODOLOGY

The study employs an ex-post facto research design, a non-experimental approach suitable for investigating relationships between variables that have already occurred. This design is utilized when manipulating variables is unfeasible or unethical. It involves data collection from past events or situations and is well-suited for examining the effects of variables that have transpired. However, this design has limitations in controlling extraneous variables and establishing causation.

The target population comprises seven national Microfinance banks that have been operational over the past six years. The population encapsulates the units for which the study's findings are intended to be generalized. A purposive sampling approach is employed, selecting Nigeria's eight national microfinance institutions as the study's focus. The study utilizes the annual financial reports of the banks from the preceding six years. Secondary sources, specifically annual reports (2015-2022) of the microfinance banks and relevant Central Bank reports, are utilized for data collection. These official reports ensure data reliability and efficiency.

Data analysis encompasses both descriptive and inferential statistics. The study employs Multivariate Analysis of Variance (MANOVA) to examine the impact of regulations on financial sustainability. MANOVA is selected for its ability to simultaneously evaluate multiple dependent variables and assess associations between different variables.

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Model Specification

The mathematical relationship between study variables is presented in the form of a model. The model expresses the interplay between the financial sustainability indicators and the independent variables, Minimum Capital Requirement and Prudential Ratios.

$DV = \alpha + \beta_1 IV_1 + \beta_2 IV_2 + \epsilon$

Where DV=Dependent Variable; IV=Independent Variable

Equation 1:

$RMLT = \alpha + \beta 1 SPRCBR + \beta 2 MCRICBR + \epsilon 1$

Equation 2:

$ROA = \alpha + \beta 1 SPRCBR + \beta 2 MCRICBR + \epsilon 2$

Where:

RMLT = Ratio of Micro Loans to Total.

ROA = Returns on Assets.

SPRCBR = Sanctions and Penalties Resulting from Central Bank Regulations.

MCRICBR = Minimum Capital Requirement Imposed by Central Bank Regulations.

α = intercept coefficient.

$\beta 1$ and $\beta 2$ are the coefficients for the independent variables *SPRCBR* and *MCRICBR*, respectively.

$2\epsilon 1$, $\epsilon 2$ are the error terms associated with each equation.

In this single model, both equations are presented together, allowing for the simultaneous examination of the relationship between the independent variables (*SPRCBR* and *MCRICBR*) and the two dependent variables (*RMLT* and *ROA*). This model was subjected to Multivariate Analysis of Variance (MANOVA) to assess the impact of Central Bank regulations and Minimum Capital Requirement on the financial performance indicators in National Microfinance Banks. The coefficients $\beta 1$ and $\beta 2$ reflect the associations between the regulatory variables and the financial performance aspects, providing insights into how these regulations influence microloan ratios and asset returns.

DATA PRESENTATION AND ANALYSIS

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
RMLT	56	4.61	10.66	7.4274	1.64378	0.156	0.319	-0.995	0.628

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ROA	56	0.78	1.81	1.2784	0.32644	0.05	0.319	-1.288	0.628
SPRCBR	56	.00	2.81	1.3088	0.88643	0.149	0.319	-1.257	0.628
MCRICBR	56	1.61	3.61	2.5702	0.63228	0.083	0.319	-1.281	0.628
Valid N (listwise)	56								

SOURCE: SPSS, 2023

In this research study, two key financial performance indicators, namely the Ratio of Micro Loans to Total (RMLT) and Returns on Assets (ROA), were examined in the context of National Microfinance Banks in Nigeria. The study also considered two independent variables, namely Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR) and Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR). The descriptive statistics presented in Table 1 offer valuable insights into the central tendencies and distributions of these variables.

The average RMLT, representing the proportion of micro loans to total loans, was found to be approximately 7.43%, with a relatively low standard deviation of 1.64, indicating moderate variation among banks. ROA, which measures returns on assets, had an average value of about 1.28% with a standard deviation of 0.33, suggesting a fairly stable performance across the sampled banks. Sanctions and penalties resulting from Central Bank regulations (SPRCBR) had an average score of approximately 1.31, reflecting the extent of regulatory actions faced by these banks. Minimum Capital Requirement (MCRICBR) averaged around 2.57, signifying the minimum capital mandated by Central Bank regulations.

The skewness and kurtosis values for these variables generally indicated relatively normal distributions, with some slight right-skewness observed in RMLT, SPRCBR, and MCRICBR. These findings lay the foundation for more in-depth analyses, such as regression models, to assess the impact of Central Bank regulations and minimum capital requirements on the financial sustainability of National Microfinance Banks. Further investigation is necessary to determine how these regulatory factors influence microloan ratios and asset returns, providing critical insights into the financial health of microfinance institutions in Nigeria.

Table 2 Correlations

		RMLT	**ROA**	**SPRCBR**	**MCRICBR**
RMLT	Pearson Correlation	1	.956**	.959**	.957**
	Sig. (2-tailed)		.000	.000	.000
	N	56	56	56	56
ROA	Pearson Correlation	.956**	1	.999**	1.000**
	Sig. (2-tailed)	.000		.000	.000
	N	56	56	56	56
SPRCBR	Pearson Correlation	.959**	.999**	1	1.000**
	Sig. (2-tailed)	.000	.000		.000
	N	56	56	56	56
MCRICBR	Pearson Correlation	.957**	1.000**	1.000**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	56	56	56	56

SOURCE: SPSS, 2023

Table 2 presents the correlation matrix between the variables under consideration: Ratio of Micro Loans to Total (RMLT), Returns on Assets (ROA), Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR), and Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR). The correlations provide insights into the relationships between these variables.

Firstly, there is a strong positive correlation between RMLT and ROA, with a Pearson correlation coefficient of .956** ($p < 0.01$). This suggests that as the ratio of micro loans to total loans (RMLT) increases, there is a corresponding increase in Returns on Assets (ROA). This finding implies that microfinance banks that allocate a higher proportion of their loans to microfinance activities tend to have better returns on their assets.

Secondly, there are extremely high positive correlations between SPRCBR and all other variables: .959** with RMLT, .999** with ROA, and 1.000** with MCRICBR (all $p < 0.01$). This indicates that the level of sanctions and penalties resulting from Central Bank regulations (SPRCBR) is almost perfectly correlated with RMLT, ROA, and MCRICBR. It suggests that as the severity of regulatory sanctions and penalties increases, there is a consistent impact on RMLT, ROA, and the Minimum Capital Requirement (MCRICBR).

Lastly, there is a perfect positive correlation of 1.000** between MCRICBR and ROA ($p < 0.01$), and also between MCRICBR and SPRCBR. This implies that the Minimum Capital Requirement (MCRICBR) has a strong, direct relationship with Returns on Assets (ROA) and the level of sanctions and penalties resulting from Central Bank regulations (SPRCBR).

These strong correlations highlight the interconnectedness of the variables in your study. The findings suggest that regulatory factors, such as sanctions, penalties, and minimum capital requirements, play a significant role in influencing the financial performance of National Microfinance Banks in Nigeria. These relationships should be explored further through regression analysis to better understand the specific impact of these regulatory variables on microloan ratios and asset returns.

Table 3 Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	0.996	10850.157[b]	1.000	39.000	0.000
	Wilks' Lambda	0.004	10850.157[b]	1.000	39.000	0.000
	Hotelling's Trace	278.209	10850.157[b]	1.000	39.000	0.000
	Roy's Largest Root	278.209	10850.157[b]	1.000	39.000	0.000
SPRCBR	Pillai's Trace	0.000	.[b]	0.000	0.000	.
	Wilks' Lambda	1.000	.[b]	0.000	39.000	.
	Hotelling's Trace	0.000	.[b]	0.000	2.000	.
	Roy's Largest Root	0.000	.000[b]	1.000	38.000	1.000
MCRICBR	Pillai's Trace	0.000	.[b]	0.000	0.000	.
	Wilks' Lambda	1.000	.[b]	0.000	39.000	.
	Hotelling's Trace	0.000	.[b]	0.000	2.000	.
	Roy's Largest Root	0.000	.000[b]	1.000	38.000	1.000
SPRCBR * MCRICBR	Pillai's Trace	0.000	.[b]	0.000	0.000	.
	Wilks' Lambda	1.000	.[b]	0.000	39.000	.
	Hotelling's Trace	0.000	.[b]	0.000	2.000	.
	Roy's Largest Root	0.000	.000[b]	1.000	38.000	1.000

a. Design: Intercept + SPRCBR + MCRICBR + SPRCBR * MCRICBR

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b. Exact statistic

SOURCE: SPSS, 2023

The results of the Multivariate Test, as presented in Table 3, provide valuable insights into the impact of various factors on the financial sustainability indicators of National Microfinance Banks, specifically the Ratio of Micro Loans to Total (RMLT) and Returns on Assets (ROA). The analysis begins with the intercept, representing the overall model, which is found to be highly significant. This suggests that the model, encompassing both the intercept and the independent variables, plays a crucial role in explaining the variation in RMLT and ROA.

However, when focusing on the individual factors, namely Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR), Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR), and their interaction term (SPRCBR * MCRICBR), the Multivariate Test yields different results. These specific variables, whether considered individually or in combination, do not appear to significantly influence the financial sustainability indicators. The low or zero values for various test statistics, coupled with significance levels that are either extremely low or at the maximum value, suggest that SPRCBR, MCRICBR, and their interaction may not be the primary drivers of variations in RMLT and ROA.

These findings underscore the complexity of factors that impact the financial performance of National Microfinance Banks. While the model as a whole is significant, it is apparent that other unexamined variables or contextual factors may exert more substantial influences on RMLT and ROA. Further research and the inclusion of additional relevant factors may be necessary to gain a comprehensive understanding of the dynamics affecting the financial sustainability of these institutions.

Table 4 Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	RMLT	137.222[a]	16	8.576	29.369	0.00
	ROA	5.861[b]	16	0.366	.	.
Intercept	RMLT	3168.427	1	3168.427	10850.16	0.000
	ROA	94.993	1	94.993	.	.
SPRCBR	RMLT	0	0	.	.	.
	ROA	0	0	.	.	.
MCRICBR	RMLT	0	0	.	.	.
	ROA	0	0	.	.	.
SPRCBR * MCRICBR	RMLT	0	0	.	.	.
	ROA	0	0	.	.	.
Error	RMLT	11.389	39	0.292		
	ROA	0	39	0		
Total	RMLT	3237.899	56			
	ROA	97.377	56			
Corrected Total	RMLT	148.611	55			

	ROA	5.861	55			

SOURCE: SPSS, 2023

The results presented in Table 4, which detail the Tests of Between-Subjects Effects, shed light on the impact of various factors on the financial sustainability indicators of National Microfinance Banks. Notably, the Corrected Model demonstrates its significance in explaining the variation in the Ratio of Micro Loans to Total (RMLT), with a high F-statistic of 29.369 and a significance level (Sig.) of 0.000, well below the conventional alpha level of 0.05. This suggests that the model, encompassing the examined independent variables, is indeed effective in elucidating the factors affecting RMLT.

Conversely, when considering Returns on Assets (ROA), the model's explanatory power appears to be limited. The F-statistic and Sig. values for ROA are not provided, indicating that the model may not be applicable or significant in explaining variations in ROA. This implies that there might be other unaccounted factors or complexities influencing ROA in National Microfinance Banks that are not captured by the current model.

Moving on to the individual factors, namely Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR), Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR), and their interaction (SPRCBR * MCRICBR), these variables show no significant contribution to explaining the variation in either RMLT or ROA. The Type III Sum of Squares for these factors is zero, signalling that they do not play a substantial role in influencing the financial sustainability indicators under scrutiny.

While the model effectively explains variations in RMLT, it may require further refinement or consideration of additional factors to better elucidate the determinants of ROA in National Microfinance Banks. Furthermore, the individual and interaction effects of SPRCBR and MCRICBR do not significantly impact the financial sustainability indicators, highlighting the complexity of factors that affect the performance of these institutions. Further research and exploration of unexamined variables may be necessary to gain a comprehensive understanding of the dynamics influencing the financial sustainability of National Microfinance Banks.

Test of Hypotheses

H01: There is no significant relationship between sanctions and penalties resulting from Central Bank regulations and the Ratio of Micro Loans to Total Loans in National Microfinance Banks.

The results show that sanctions and penalties resulting from Central Bank regulations (SPRCBR) have a Pillai's Trace statistic of 0.000 and an unspecified significance level (Sig.). This indicates no significant multivariate effect of SPRCBR on the financial indicators, including the Ratio of Micro Loans to Total Loans (RMLT) in National Microfinance Banks. The lack of a significant multivariate effect of SPRCBR suggests that these regulatory sanctions and penalties do not collectively influence the financial indicators in a substantial manner. This implies that other factors, not captured in the current model, may have a more prominent impact on the microloan ratios in National Microfinance Banks. The study accepts H01, as the results suggest that there is no significant multivariate relationship between sanctions and penalties resulting from Central Bank regulations (SPRCBR) and the financial indicators, including the Ratio of Micro Loans to Total Loans (RMLT), in National Microfinance Banks.

H02: There is no significant relationship between Minimum Capital Requirement imposed by Central Bank regulations significantly influences Returns on Assets in National Microfinance Banks.

The results for Minimum Capital Requirement imposed by Central Bank regulations (MCRICBR) show a Pillai's Trace statistic of 0.000 and an unspecified significance level (Sig.). This suggests no significant multivariate effect of MCRICBR on the financial indicators, including Returns on Assets (ROA) in National Microfinance Banks. The lack of a significant multivariate effect of MCRICBR implies that changes in the minimum capital requirement do not collectively impact the returns generated on assets in a substantial manner within these banks. It suggests that other unaccounted factors or complexities might be influencing ROA. The research accepts H02, as the results suggest that there is no significant multivariate relationship between Minimum Capital Requirement imposed by Central Bank regulations (MCRICBR) and the financial indicators, including Returns on Assets (ROA), in National Microfinance Banks.

DISCUSSION OF THE FINDING

The results presented in Table 4, which detail the Tests of Between-Subjects Effects, shed light on the impact of various factors on the financial sustainability indicators of National Microfinance Banks (NMBs) in Nigeria. Notably, the Corrected Model demonstrates its significance in explaining the variation in the Ratio of Micro Loans to Total (RMLT), with a high F-statistic of 29.369 and a significance level (Sig.) of 0.000, well below the conventional alpha level of 0.05. This suggests that the model, encompassing the examined independent variables, is indeed effective in elucidating the factors affecting RMLT. In the context of Agency Theory, this finding aligns with the theory's postulation that regulatory mechanisms, such as sanctions, penalties, and Minimum Capital Requirement, serve as mechanisms to align the interests of microfinance bank managers (agents) with those of shareholders and stakeholders (principals), thereby influencing financial performance.

Conversely, when considering Returns on Assets (ROA), the model's explanatory power appears to be limited. The F-statistic and Sig. values for ROA are not provided, indicating that the model may not be applicable or significant in explaining variations in ROA. This implies that there might be other unaccounted factors or complexities influencing ROA in NMBs that are not captured by the current model. This observation aligns with the findings of Akinlo (2020), who concentrated on macro-level implications while sidestepping the finer granularity of dissecting the regulatory underpinnings that fundamentally shape the financial well-being of NMBs.

Moving on to the individual factors, namely Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR), Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR), and their interaction (SPRCBR * MCRICBR), these variables show no significant contribution to explaining the variation in either RMLT or ROA. The Type III Sum of Squares for these factors is zero, signalling that they do not play a substantial role in influencing the financial sustainability indicators under scrutiny. This finding is in line with the research of Ogbeide and Lucky (2019), who explored the regulatory milieu's impact on microfinance institutions but omitted an examination of the specific repercussions stemming from sanctions, penalties, and Minimum Capital Requirement.

While the model effectively explains variations in RMLT, it may require further refinement or consideration of additional factors to better elucidate the determinants of ROA in NMBs. Furthermore, the individual and interaction effects of SPRCBR and MCRICBR do not significantly impact the financial sustainability indicators, highlighting the complexity of factors that affect the performance of these institutions. Further research and exploration of unexamined variables, as highlighted by Smith et al. (2018), may be necessary to gain a comprehensive understanding of the dynamics influencing the financial sustainability of NMBs.

Based on the effects and implications discussed, the study accepts all three hypotheses (H01 and H02). The results from the multivariate test indicate that neither sanctions and penalties resulting from Central Bank

regulations (SPRCBR) nor Minimum Capital Requirement (MCRICBR) have a significant multivariate relationship with the financial indicators in National Microfinance Banks.

CONCLUSION

In the pursuit of comprehending the intricate relationship between regulatory mechanisms and the financial performance of National Microfinance Banks (NMBs) in Nigeria, this study embarked on an exhaustive examination. The results gleaned from the comprehensive analysis provide valuable insights into the multifaceted dynamics that underpin the sustainability of these crucial financial institutions. The findings reveal a nuanced picture. The Corrected Model, as evidenced by a high F-statistic and a remarkably low significance level (Sig.), effectively elucidates the factors influencing the Ratio of Micro Loans to Total (RMLT) in NMBs. This implies that the regulatory mechanisms, alongside other factors, play a significant role in shaping the allocation of micro loans within these institutions. The implications of this finding resonate with the tenets of Agency Theory, which posits that regulatory measures serve as mechanisms to align the interests of managers with those of shareholders and stakeholders, thereby influencing financial performance.

Conversely, the model's explanatory power appears limited when considering Returns on Assets (ROA). The absence of significant multivariate effects for ROA suggests that there are intricacies and complexities in NMBs that extend beyond the scope of the current regulatory model. This aligns with the observations made in the empirical review, echoing the need for a more granular examination of regulatory underpinnings. Furthermore, individual factors, including Sanctions and Penalties Resulting from Central Bank Regulations (SPRCBR), Minimum Capital Requirement Imposed by Central Bank Regulations (MCRICBR), and their interaction, do not significantly contribute to explaining the variation in either RMLT or ROA. This underscores the complexity of factors affecting NMBs' performance, as well as the need for more extensive research into unexamined variables.

Based on the findings of this study, it is recommended that National Microfinance Banks (NMBs) in Nigeria should pay close attention to the regulatory environment, especially regarding Central Bank regulations related to sanctions, penalties, and Minimum Capital Requirement. While the research did not find a significant multivariate relationship between these regulatory factors and financial performance indicators, the nuances of the relationship indicate a need for continuous monitoring and adaptability to regulatory changes. NMBs should also consider diversifying their strategies for improving Returns on Assets (ROA), as the study suggests that factors beyond regulatory measures significantly influence this metric. Additionally, future research should delve deeper into unexamined variables and conduct more granular analyses to enhance our understanding of the intricate dynamics influencing the sustainability of NMBs in Nigeria.

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