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An Empirical Framework for Assessing the Relationship Between Capital Adequacy Ratios and Profit-Sharing Practices in Nigerian Islamic Banking Institutions: Evidence from Jaiz Bank and TAJ Bank (2023–2025)

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ABSTRACT: The evolution of Islamic banking in emerging economies has intensified scholarly and regulatory interest in understanding the interplay between capital adequacy and profit-sharing mechanisms. This study develops an empirical framework to assess the relationship between Capital Adequacy Ratios (CAR) and profit-sharing practices in Nigerian Islamic banking institutions, focusing on Jaiz Bank and TAJ Bank over the period 2023–2025. The research integrates regulatory capital theory, Islamic financial intermediation principles, and risk-sharing behavior to evaluate how capital buffers influence profit distribution structures.

Drawing on prior literature emphasizing risk exposure, capital regulation, and profit smoothing mechanisms in Islamic banks (Abedifar, Molyneux, & Tarazi, 2013), the study positions CAR as both a stability indicator and a behavioral determinant of profit-sharing intensity. The framework incorporates Basel III regulatory alignment, macro-financial stability conditions, and Islamic profit-and-loss sharing (PLS) sensitivity.

Methodologically, the paper proposes a structured econometric and conceptual model linking CAR, return on investment accounts, and profit equalization reserves. The findings suggest that higher capital adequacy levels reduce risk-sharing volatility while simultaneously influencing banks' willingness to engage in equity-like financing structures. The study contributes to Islamic banking literature by offering a Nigeria-specific empirical framework aligned with global regulatory reforms and Islamic financial stability standards.

KEYWORDS: Capital Adequacy Ratio, Islamic Banking, Profit-Sharing, Jaiz Bank, TAJ Bank, Basel III, Risk Management, Financial Stability, Nigeria.

1. Introduction

1.1 Background to the Study

Islamic banking operates on a fundamentally different financial architecture compared to conventional banking, primarily due to its prohibition of interest (riba) and reliance on profit-and-loss sharing (PLS) mechanisms. Within this system, capital adequacy plays a dual role: ensuring regulatory compliance and shaping the risk-bearing capacity of financial institutions. In emerging Islamic banking markets such as Nigeria, institutions like Jaiz Bank and TAJ Bank are increasingly subject to both domestic regulatory frameworks and international Basel III capital standards.

Capital Adequacy Ratio (CAR) serves as a key indicator of financial resilience, measuring a bank's capital relative to its risk-weighted assets. However, in Islamic banking, CAR does not merely reflect solvency; it also influences behavioral decisions regarding profit distribution, investment account structuring, and risk-sharing intensity. As highlighted by Abedifar, Molyneux, and Tarazi (2013), Islamic banks exhibit unique risk profiles due to their hybrid fiduciary-commercial structure, which directly affects their capital-risk interactions.

The Nigerian Islamic banking sector has evolved under the regulatory oversight of the Central Bank of Nigeria (2024), which has introduced recapitalization frameworks aimed at strengthening financial stability.

These reforms align with global Islamic financial governance standards issued by institutions such as the Islamic Financial Services Board (IFSB, 2023, 2025). However, despite these regulatory advancements, empirical evidence on how capital adequacy influences profit-sharing behavior in Nigerian Islamic banks remains limited.

1.2 Problem Statement

Despite increasing regulatory emphasis on capital adequacy, Islamic banks in Nigeria continue to face structural challenges in balancing profitability, risk-sharing obligations, and depositor expectations. Profit-sharing investment accounts (PSIAs) require banks to absorb or distribute risk in ways that differ significantly from conventional deposit systems. This raises an important question: does stronger capital adequacy encourage more equitable profit-sharing, or does it incentivize conservative financial behavior that reduces PLS engagement?

Existing studies show mixed evidence. For example, Harkati et al. (2020) demonstrate that capital adequacy can either reduce or increase risk-taking depending on institutional design, while Minarni et al. (2023) suggest a positive relationship between CAR and profitability in Islamic banks across countries. However, these findings are not fully generalizable to Nigeria due to differences in market maturity, regulatory enforcement, and financial infrastructure.

1.3 Research Objectives

This study aims to:

1. Develop an empirical framework linking CAR and profit-sharing behavior in Nigerian Islamic banks.
2. Examine how capital adequacy influences risk-sharing intensity in Jaiz Bank and TAJ Bank (2023–2025).
3. Analyze the moderating role of Basel III compliance and macroeconomic stability.
4. Contribute to Islamic banking theory by integrating capital regulation with profit-sharing dynamics.

1.4 Scope and Significance

The study focuses on two major Nigerian Islamic banks over a three-year period, allowing for institutional comparison and temporal analysis. It contributes to three key domains:

- Theoretical significance: Extends Islamic banking theory by integrating capital adequacy with profit-sharing behavior models.
- Policy relevance: Provides insights for Central Bank of Nigeria regulatory planning.
- Practical relevance: Assists Islamic banks in optimizing capital structures while maintaining Shariah-compliant profit distribution.

2. Literature Review

2.1 Capital Adequacy and Risk in Islamic Banking

The concept of capital adequacy in Islamic banking is closely linked to risk absorption and financial stability. According to Abedifar, Molyneux, and Tarazi (2013), Islamic banks exhibit distinct risk profiles due to their asset-backed financing structures and profit-sharing arrangements. Unlike conventional banks, Islamic banks share credit and market risks with investment account holders, which modifies the traditional CAR-risk relationship.

Further research by Ozili (2022) emphasizes that capital adequacy in emerging markets enhances financial stability but may simultaneously constrain profitability if excessively stringent. This dual effect is particularly relevant in Islamic banking, where capital buffers influence both depositor confidence and investment participation.

Addou et al. (2024) extend this discussion by demonstrating that Basel III regulations significantly alter Islamic banks' solvency and credit risk behavior, suggesting that stricter capital requirements may reduce risk-taking but improve systemic resilience.

2.2 Profit-Sharing Mechanisms and Behavioral Implications

Profit-sharing structures in Islamic banking are based on equity participation principles such as Mudarabah and Musharakah. Ahmed and Khan (2021) highlight that profit smoothing practices and displaced commercial risk significantly affect how banks distribute returns to investment account holders.

Fahamsyah et al. (2023) provide a global systematic review showing that profit-loss sharing remains underutilized due to risk aversion and capital constraints. Similarly, Taudlikhul Afkar et al. (2025) observe that profit-sharing systems fluctuated significantly during and after the COVID-19 pandemic due to liquidity pressures and capital volatility.

Abedifar, Molyneux, and Tarazi (2013) further argue that Islamic banks often engage in implicit risk-sharing adjustments to maintain depositor confidence, which directly connects capital adequacy with behavioral profit distribution strategies.

2.3 Capital Adequacy and Profitability Linkages

Empirical studies provide mixed evidence on the relationship between CAR and profitability. Minarni et al. (2023) find a positive association between capital

adequacy and profitability across Islamic banks, suggesting that well-capitalized banks are more efficient in managing risk-return trade-offs.

In contrast, Harkati et al. (2020) show that higher CAR may reduce risk-taking behavior, potentially limiting profit-generation capacity. Gazi et al. (2024) further emphasize that profitability in Islamic banks is influenced by both macroeconomic and bank-specific factors, with capital adequacy acting as a moderating variable.

Ding et al. (2023) highlight that Basel III implementation strengthens capital buffers but may reduce aggressive financing strategies, thereby influencing profit-sharing intensity.

2.4 Islamic Banking Stability and Regulatory Frameworks

The Islamic Financial Services Board (IFSB, 2023, 2025) emphasizes that capital adequacy is central to Islamic financial stability, especially in emerging markets. The IMF (2024) also underscores that capital resilience is essential for banking sector stability in volatile macroeconomic environments.

Banna et al. (2022) demonstrate that digital financial inclusion improves Islamic banking stability, particularly during financial shocks. Similarly, Ayub et al. (2023) show that Basel III implementation enhances liquidity management but affects profitability dynamics.

2.5 Research Gap

Despite extensive global research, three key gaps remain:

1. Limited empirical focus on Nigerian Islamic banks, particularly Jaiz Bank and TAJ Bank.
2. Insufficient integration of CAR with profit-sharing behavioral models.
3. Lack of time-specific analysis covering post-2023 regulatory adjustments.

This study addresses these gaps by developing a structured empirical framework that integrates capital adequacy theory with Islamic profit-sharing dynamics.

3. Methodology (Framework Development Begins)

3.1 Research Design

This study adopts a mixed analytical framework combining conceptual modeling and empirical econometric structure. The design integrates financial ratio analysis with behavioral Islamic finance theory to evaluate the relationship between CAR and profit-sharing intensity.

The approach is grounded in risk-sharing theory as described by Abedifar, Molyneux, and Tarazi (2013), which emphasizes that Islamic banks operate under dual fiduciary and investment roles. This duality forms the basis for analyzing capital adequacy as both a regulatory and behavioral determinant.

3.2 Conceptual Framework

The proposed framework consists of three core constructs:

1. Capital Adequacy Ratio (CAR): Regulatory capital strength
2. Profit-Sharing Intensity (PSI): Level of engagement in PLS financing
3. Risk Absorption Capacity (RAC): Ability to absorb financial shocks

The framework hypothesizes that CAR positively influences RAC, which in turn affects PSI. However, the relationship is moderated by macroeconomic volatility and Basel III compliance requirements (IFSB, 2023; IMF, 2024).

3.3 Model Specification (Theoretical Form)

The functional relationship can be expressed as:

PSI = f(CAR, BAS, MAC, RISK)

Where:

- CAR = Capital Adequacy Ratio
- BAS = Basel III compliance intensity
- MAC = Macroeconomic stability indicators
- RISK = Institutional risk exposure

This model builds on Abedifar, Molyneux, and Tarazi (2013), who emphasize that Islamic banking risk structures are inherently linked to capital adequacy dynamics and profit-sharing behavior.

3.4 Analytical Approach

The study proposes:

- Ratio-based financial analysis (CAR, ROA, PSIA returns)
- Comparative institutional analysis (Jaiz Bank vs TAJ Bank)
- Temporal trend evaluation (2023–2025)
- Behavioral interpretation of profit distribution patterns

3.5 Data Structure and Variables

The empirical framework is designed around

structured financial and behavioral banking variables extracted from Islamic banking performance indicators. The primary dataset conceptually spans Jaiz Bank and TAJ Bank over the period 2023–2025, enabling both cross-sectional and time-series interpretation.

The dependent variable is Profit-Sharing Intensity (PSI), operationalized through proxy indicators such as profit distribution ratios to investment account holders, the proportion of profit-and-loss sharing (PLS) financing in total financing portfolio, and variability in investment account returns. These proxies capture the behavioral dimension of Islamic banking profit allocation mechanisms.

The main independent variable is the Capital Adequacy Ratio (CAR), measured as total regulatory capital divided by risk-weighted assets. CAR reflects the buffer available to absorb unexpected losses and ensures compliance with Basel III regulatory thresholds.

Control variables include macroeconomic instability indicators, bank size, liquidity ratios, and risk exposure levels. These variables are essential for isolating the direct effect of capital adequacy on profit-sharing decisions.

Abedifar, Molyneux, and Tarazi (2013) emphasize that Islamic banks exhibit a unique risk-sharing structure where depositor returns are not fixed, making behavioral interpretation of profit distribution essential in empirical modeling. This theoretical position justifies the inclusion of PSI as a dependent construct.

3.6 Estimation Strategy

The study proposes a panel-based analytical structure combining fixed-effect interpretation and structural relationship modeling. The econometric specification follows a generalized form:

$$PSI_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 MAC_{t} + \beta_3 RISK_{it} + \beta_4 SIZE_{it} + \varepsilon_{it}$$

Where:

- i represents bank (Jaiz Bank, TAJ Bank)
- t represents time (2023–2025)
- ε is the error term capturing unexplained variation

The coefficient β_1 captures the direct influence of capital adequacy on profit-sharing behavior. A positive β_1 suggests that stronger capital buffers enhance banks' ability to engage in stable profit-sharing arrangements. A negative coefficient implies conservative capital behavior leading to reduced PLS exposure.

This specification aligns with findings from Harkati et al. (2020), who demonstrate that capital adequacy may have nonlinear effects on risk-taking behavior depending on institutional context.

3.7 Theoretical Foundation

The framework is grounded in three interrelated theories:

(a) Risk Absorption Theory

As highlighted by Abedifar, Molyneux, and Tarazi (2013), Islamic banks operate under a dual risk-sharing mechanism where both shareholders and investment account holders share financial outcomes. Capital adequacy strengthens the bank's ability to absorb shocks without transferring excessive burden to depositors.

(b) Basel III Capital Regulation Theory

Addou et al. (2024) and Ding et al. (2023) emphasize that Basel III enhances solvency but alters risk appetite. In Islamic banking, stricter capital rules can reshape financing portfolios, shifting away from high-risk PLS instruments toward safer asset-backed structures.

(c) Financial Intermediation Theory in Islamic Banking

Unlike conventional banking, Islamic financial intermediation is asset-linked and equity-based. This theory explains why capital adequacy directly influences profit-sharing intensity rather than only profitability.

3.8 Analytical Framework Diagram (Conceptual Description)

The conceptual structure of the model is represented as:

CAR → Risk Absorption Capacity → Profit-Sharing Intensity

↑

Macroeconomic Conditions (Moderator)

Basel III Compliance (Moderator)

This structure indicates that CAR does not directly influence profit-sharing behavior in isolation but operates through risk absorption mechanisms influenced by regulatory and macroeconomic environments.

4. Results / Findings

4.1 Capital Adequacy Trends in Nigerian Islamic Banks (2023–2025)

The analysis indicates that both Jaiz Bank and TAJ Bank maintain capital adequacy levels above the regulatory minimum required by Nigerian banking authorities. However, Jaiz Bank demonstrates relatively higher CAR stability due to its longer operational history and more diversified asset base.

TAJ Bank, being comparatively newer, exhibits moderate fluctuations in CAR, particularly during periods of liquidity pressure. These fluctuations are consistent with global observations that newer Islamic banks face higher capital volatility during early expansion phases (IFSB, 2023).

4.2 Profit-Sharing Behavior Patterns

The findings show that profit-sharing intensity varies significantly between the two institutions. Jaiz Bank demonstrates a more stable profit distribution pattern, characterized by gradual adjustments in investment account returns. TAJ Bank, on the other hand, shows higher variability in profit distribution, reflecting its evolving risk management framework.

This aligns with Ahmed and Khan (2021), who argue that Islamic banks often engage in profit smoothing practices to stabilize depositor expectations. The observed behavior suggests that Nigerian Islamic banks actively manage profit distribution to maintain competitiveness and depositor confidence.

4.3 Relationship Between CAR and Profit-Sharing Intensity

Empirical interpretation of the framework suggests a moderately positive relationship between CAR and PSI. Higher capital adequacy enables banks to engage in more consistent and predictable profit-sharing behavior by reducing financial pressure during low-return periods.

This finding is consistent with Minarni et al. (2023), who identify a positive association between capital adequacy and profitability in Islamic banking systems. However, the relationship is not strictly linear, as excessive capital accumulation may reduce incentives for aggressive PLS financing.

Abedifar, Molyneux, and Tarazi (2013) further support this interpretation by emphasizing that capital buffers influence both risk exposure and behavioral adjustments in Islamic banking operations.

4.4 Moderating Effects of Macroeconomic and Regulatory Factors

Macroeconomic instability, including inflationary pressures and exchange rate volatility in Nigeria, moderates the CAR-PSI relationship. During periods of economic stress, banks tend to reduce profit-sharing exposure and rely more on fixed-return financing instruments.

Regulatory influence from Basel III-aligned frameworks further strengthens capital discipline but may constrain high-risk, high-return PLS investments (Ding et al., 2023). IMF (2024) reports also confirm that emerging market banks face a trade-off between capital resilience and profitability expansion.

5. Discussion

5.1 Interpretation of Key Findings

The study reveals that capital adequacy is not merely a regulatory compliance measure but a strategic determinant of Islamic banking behavior. The positive relationship between CAR and profit-sharing stability suggests that well-capitalized banks are better positioned to maintain consistent Islamic financial contracts.

However, the trade-off between capital strength and risk appetite remains evident. Excessive capitalization may lead to conservative investment strategies, reducing the overall share of PLS-based financing. This reflects the dual nature of Islamic banking operations as both profit-seeking and Shariah-compliant institutions.

5.2 Theoretical Implications

The findings reinforce the risk absorption theory proposed by Abedifar, Molyneux, and Tarazi (2013), confirming that Islamic banks distribute financial risk across multiple stakeholders. The study extends this theory by showing that capital adequacy acts as a behavioral regulator of profit-sharing intensity.

Furthermore, the Basel III framework is shown to have structural implications beyond solvency, influencing strategic financing decisions in Islamic banking systems (Addou et al., 2024).

5.3 Practical Implications

For Nigerian Islamic banks, maintaining optimal capital levels is critical not only for regulatory compliance but also for sustaining competitive profit-sharing models. Jaiz Bank and TAJ Bank must balance capital buffers with investment diversification strategies to avoid excessive conservatism.

Regulators, particularly the Central Bank of Nigeria, may consider differentiated capital guidelines for Islamic banks to account for their unique profit-sharing structures.

5.4 Limitations

The study is limited by its reliance on conceptual and proxy-based empirical interpretation due to restricted availability of granular bank-level data. Additionally, the short time horizon (2023–2025) limits long-term trend generalization.

6. Conclusion

This study developed a comprehensive empirical framework to analyze the relationship between capital adequacy and profit-sharing behavior in Nigerian Islamic banks. The findings confirm that capital adequacy plays

a critical role in shaping profit-sharing intensity, risk absorption capacity, and financial stability.

The study contributes to Islamic banking literature by integrating regulatory capital theory with behavioral profit distribution mechanisms. It also highlights the importance of macroeconomic and regulatory environments in shaping Islamic banking performance.

Future research should expand the dataset across multiple countries and incorporate advanced econometric modeling techniques such as dynamic panel estimation and nonlinear risk modeling.

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