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CREDIT DERIVATIVES AND BANK SURVIVAL IN NIGERIA: EVIDENCE FROM DEPOSIT MONEY BANKS

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Abstract: The increasing complexity of financial markets has intensified the use of credit derivatives as tools for managing credit risk among banks. While these instruments are designed to enhance risk transfer and financial stability, empirical evidence on their effectiveness in promoting bank survival remains mixed, particularly in developing economies. This study investigates the effect of credit derivatives on bank survival in Nigeria, using capital adequacy ratio (CAR) as a proxy for survival. Employing an ex-post facto research design, panel data were obtained from fourteen tier-one and tier-two deposit money banks over the period 2011–2023. Credit derivatives are proxied by credit default swaps (CDS), collateralized debt obligations (CDO), and total return swaps (TRS), while bank size and ownership concentration serve as control variables. Fixed-effects panel regression with robust standard errors is employed following diagnostic and specification tests. The findings reveal that credit default swaps exert a positive and statistically significant effect on capital adequacy, suggesting that CDS usage enhances bank resilience through effective credit risk transfer. Bank size and ownership concentration also significantly improve capital adequacy, whereas collateralized debt obligations and total return swaps exhibit positive but statistically insignificant effects. The study concludes that not all credit derivative instruments contribute equally to bank survival in Nigeria. Policy implications emphasize the need for enhanced regulatory oversight and improved risk governance frameworks to ensure that credit derivatives are employed prudently to strengthen the stability and survivability of the Nigerian banking system.

Keywords: Credit derivatives, Bank survival, Capital adequacy ratio, Deposit money banks, Nigeria

1. Introduction

Ensuring the survival and stability of banking institutions has become a central concern for regulators, policymakers, and financial market participants, particularly in the aftermath of the 2007–2008 global financial crisis. The crisis exposed significant weaknesses in banks' risk management practices and highlighted the role of complex financial instruments in amplifying systemic risk. In response, regulators worldwide intensified their focus on macroprudential policies aimed at safeguarding bank stability and preventing future financial distress.

In developing economies, including Nigeria, the banking sector plays a dominant role in financial intermediation, making bank survival critical to economic stability and growth. Nigerian deposit money banks have historically experienced episodes of distress linked to weak capital adequacy, poor credit risk management, and

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macroeconomic volatility. Although regulatory reforms—most notably the 2004 banking consolidation—strengthened the sector, banks continue to face challenges arising from credit risk exposure and evolving financial innovations.

Credit derivatives have emerged as prominent instruments for managing credit risk by allowing banks to transfer default risk to third parties. Instruments such as credit default swaps, collateralized debt obligations, and total return swaps are intended to enhance risk diversification and preserve bank capital. However, recent experiences suggest that improper use and weak oversight of credit derivatives can undermine bank stability rather than enhance it. In Nigeria, concerns persist regarding the limited effectiveness of credit derivatives in improving capital adequacy and ensuring bank survival.

Despite a growing body of literature on credit risk management and bank performance, empirical evidence on the combined effect of credit derivative instruments on bank survival—particularly in Nigeria—remains scarce. Most existing studies focus on profitability or credit risk indicators, with limited attention to capital adequacy as a survival metric. This study addresses this gap by examining how selected credit derivative instruments affect the capital adequacy of Nigerian deposit money banks.

The objective of this study is to assess the effect of credit derivatives on bank survival in Nigeria, using capital adequacy ratio as a proxy. By providing panel-based empirical evidence, the study contributes to the literature on financial risk management and offers policy-relevant insights for regulators and bank managers.

2. Literature Review and Theoretical Framework

2.1 Credit Derivatives and Bank Survival

Credit derivatives are financial instruments that enable the transfer of credit risk from one party to another without transferring the underlying asset. By unbundling credit risk, these instruments allow banks to manage exposure, reduce concentration risk, and potentially improve capital efficiency. Credit default swaps, collateralized debt obligations, and total return swaps are among the most widely used credit derivatives in banking practice.

Bank survival refers to the ability of a bank to remain solvent, meet regulatory capital requirements, and continue performing its intermediation functions over time. Capital adequacy ratio is commonly employed as an indicator of bank survival, reflecting the capacity of a bank to absorb losses and withstand financial shocks. A higher CAR signals greater resilience and lower probability of bank failure.

Empirical studies provide mixed evidence on the impact of credit derivatives on bank stability. While some studies find that credit derivatives enhance risk sharing and reduce default risk, others argue that they may weaken monitoring incentives and encourage excessive risk-taking. Evidence from developing economies is particularly limited, underscoring the need for country-specific analysis.

2.2 Theoretical Framework: Hedging Theory

This study is anchored on hedging theory, which posits that firms and financial institutions employ derivative instruments to reduce exposure to undesirable risks and stabilize cash flows. Under this framework, banks are assumed to be risk-averse and rational, seeking to maximize expected utility by minimizing risk-adjusted losses. Credit derivatives serve as hedging tools that enable banks to transfer credit risk and protect capital buffers.

However, hedging theory also recognizes that the effectiveness of derivatives depends on market efficiency, transparency, and managerial competence. In environments characterized by information asymmetry and weak regulation—common in many developing economies—the benefits of hedging may be limited. This theoretical perspective provides a basis for examining whether credit derivatives enhance bank survival in Nigeria.

3. Methodology

3.1 Research Design and Data

The study adopts an ex-post facto research design, relying on secondary panel data from fourteen tier-one and tier-

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two deposit money banks in Nigeria over the period 2011–2023. The choice of period is informed by the issuance of regulatory guidelines on derivatives by the Central Bank of Nigeria in 2011 and the availability of consistent data.

3.2 Variable Measurement

Bank survival is proxied by capital adequacy ratio (CAR). Credit derivatives are measured using credit default swaps (CDS), collateralized debt obligations (CDO), and total return swaps (TRS). Bank size and ownership concentration are included as control variables to account for structural differences across banks.

3.3 Model Specification and Estimation Technique

The empirical model is specified as:

$$[\ CAR\_\{it\} = \_0 + 1\ CDS\{it\} + 2\ CDO\{it\} + 3\ TRS\{it\} + 4\ BS\{it\} + 5\ OC\{it\} + i + \{it\}\ ]$$

Panel regression techniques are employed, including pooled OLS, fixed effects, and random effects estimators. Diagnostic tests, including the Hausman test, indicate that the fixed-effects model is most appropriate. Robust standard errors are used to address heteroskedasticity.

4. Results and Discussion

The empirical results indicate that credit default swaps have a positive and statistically significant effect on capital adequacy, suggesting that CDS usage contributes to improved bank resilience through effective credit risk transfer. This finding aligns with hedging theory and supports the view that properly managed credit derivatives can enhance bank survival.

Collateralized debt obligations and total return swaps exhibit positive but statistically insignificant effects on capital adequacy. This may reflect limited market depth, weak structuring, or regulatory constraints affecting these instruments in Nigeria. Among the control variables, bank size and ownership concentration exert positive and significant effects, indicating that larger banks and those with concentrated ownership structures are better positioned to maintain adequate capital buffers.

Overall, the results suggest that while credit derivatives can support bank survival, their effectiveness varies across instruments and depends on institutional and regulatory conditions.

5. Conclusion and Policy Implications

This study examined the effect of credit derivatives on bank survival in Nigeria using panel data from deposit money banks. The findings reveal that credit default swaps significantly enhance capital adequacy, whereas collateralized debt obligations and total return swaps do not exert significant effects. Bank size and ownership concentration also play important roles in strengthening bank survival.

The study concludes that credit derivatives are not uniformly effective as risk management tools in Nigeria. Policymakers and regulators, particularly the Central Bank of Nigeria, should strengthen oversight of derivative activities and promote robust risk governance frameworks. Banks should also enhance internal expertise and risk management systems to ensure that credit derivatives are used prudently to support long-term stability.

Future research may extend this analysis by incorporating measures of systemic risk, financial inclusion, and institutional quality to provide a more comprehensive understanding of the role of credit derivatives in bank survival.