SHADOW BANKING AND MARKET-BASED FINANCING IN NIGERIA

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Abstract
This study examines the effect of various shadow banking on market-based financing (MBF) in Nigeria. The research focuses on five key variables: securitization intermediation, credit intermediation, assets-liabilities mismatch, leverage, and shadow banking index. Using a sample of 4 sectors of the non-banking financial institutions in Nigeria for the period 2018 to 2023, the study applies fixed-effect panel least squares regression analysis to assess the relationships between these variables and MBF. The findings reveal that securitization intermediation does not have a statistically significant effect on MBF. Credit intermediation, assets-liabilities mismatch, and shadow banking have statistically significant positive effects on MBF. However, leverage no statistically significant effect on MBF in Nigeria. Based on these findings, the study recommends that policymakers focus on enhancing the regulatory framework for securitization and leverage, while supporting shadow banking entities to bridge the credit gap left by traditional banks, particularly for underserved sectors in Nigeria The study underscores the significant role of credit intermediation, assets-liabilities mismatch, and shadow banking in promoting market-based financing in Nigeria, while highlighting the need for targeted regulatory measures to address the limitations of securitization and leverage practices. The findings emphasize the importance of strengthening regulatory frameworks to optimize the benefits of these financial mechanisms and ensure sustainable market-based financing in the Nigerian economy.

Keywords: Asset-liability, credit intermediation, securitization, mismatch, shadow banking index

1.0 Introduction

Shadow banking represents a significant and transformative component of the global financial system, enabling credit intermediation and financial innovation through non-bank entities operating outside traditional regulatory frameworks (Adrian & Shin, 2010). These entities include money market funds, hedge funds, shadow lenders, asset managers, insurance, pension funds, mortgage institutions and other non-depository institutions that offer credit through securitization, asset-backed securities, and structured finance (Rubio, 2024). Their activities enhance financial inclusion by bridging gaps in credit supply, particularly in markets with

underdeveloped banking systems (Pozsar et al., 2013). Shadow banking has become indispensable means of findings in emerging economies like Nigeria. It offered alternative channels for liquidity provision, capital mobilization and complement the traditional banking systems (Ogar et al., 2021). However, the opacity of these operations, coupled with their susceptibility to regulatory arbitrage, has raised concerns over their systemic risks, especially in fragile economies.

Market-based financing, characterized by raising capital through securities markets rather than relying on traditional banking institutions, has gained traction globally and within Nigeria (Tule & Onipede, 2017). Metrics such as market capitalization provide a snapshot of financial market efficiency and depth, capturing the ability of financial systems to channel savings into productive investments (Gorton & Metrick, 2010). The relationship between shadow banking and market-based financing is particularly pronounced in Nigeria, where an underdeveloped financial infrastructure often necessitates alternative financing mechanisms (Akomolafe & Ani, 2023). Shadow banking indicators such as securitization intermediation, shadow banking index, loan-to-deposit ratio, net loans and advances, and asset and liabilities mismatches directly influence the depth and stability of market-based financing, shaping liquidity, leverage, and overall market efficiency (Central Bank of Nigeria [CBN], 2020).

Globally, shadow banking systems have demonstrated both their potential and pitfalls. The 2007–2008 global financial crisis highlighted the systemic vulnerabilities posed by shadow banking entities reliant on short-term funding to finance long-term illiquid assets (Gennaioli et al., 2012). International regulatory frameworks, including the Basel III reforms and recommendations from the Financial Stability Board (FSB), have emphasized the need for enhanced transparency, better risk assessment, and liquidity safeguards (Pozsar et al., 2013).Although these frameworks offer valuable lessons, their application in Nigeria is constrained by limited market depth, low investor confidence, and a regulatory landscape that is still maturing. (Akomolafe & Ani, 2023).

Emerging empirical evidence underscores the complex role of shadow banking in Nigeria's economic development. Recent studies indicate that while shadow banking facilitates financial deepening and market liquidity, it also contributes to rising leverage ratios and heightened systemic risks (Akanbi & Dada, 2020). The liquidity gap in Nigeria's shadow banking system often leads to mismatches in asset and liability profiles, increasing the likelihood of market disruptions during economic downturns (Ogar et al., 2023).Moreover, the rapid growth of non-bank financial institutions in Nigeria has intensified competition with traditional banks, potentially undermining their stability due to the increased migration of deposits to shadow banking entities (Akomolafe & Ani, 2023).

Shadow banking has emerged as a critical but under regulated segment of the financial system, offering innovative credit intermediation outside traditional banking frameworks. In Nigeria, the growth of shadow banking reflects its potential to fill credit gaps in an underdeveloped financial sector. However, the opacity of its operations, coupled with regulatory arbitrage and liquidity mismatches, has raised systemic concerns (Ogar et al., 2023).These risks are compounded by the fragile nature of Nigeria's financial markets, where global economic uncertainties, such as oil price volatility and exchange rate fluctuations, exacerbate financial vulnerabilities. The need for alternative financing mechanisms through market-based channels has further complicated the dynamics between shadow banking and financial stability (Pozsar et al., 2013).

This study investigates the dynamics of shadow banking within the Nigerian financial system, a developing market characterized by limited financial depth and a reliance on alternative financing mechanisms (Central Bank of Nigeria [CBN], 2020). Nigeria's underdeveloped traditional banking infrastructure provides a compelling context for examining the role of non-bank financial entities in market-based financing.

While previous research has examined specific facets such as the impact of shadow banking on MSME performance (Ogar et al., 2023) and broader economic outcomes (Akomolafe & Ani, 2023), this study contributes to the existing literature by exploring sector-specific interactions within the shadow banking system. Employing an ex post facto research design and panel least square regression analysis, the study provides empirical evidence on the influence of shadow banking activities across key sectors, including insurance, microfinance, finance houses, and primary mortgage banks, on financial intermediation and stability. These sectors play a critical role in providing liquidity and credit to underserved markets, yet they are susceptible to challenges such as liquidity mismatches and systemic instability (Akanbi & Dada, 2020). By focusing on these sectors, the research elucidates the nuanced dynamics of shadow banking in Nigeria, offering valuable insights into its implications for financial intermediation and stability.

Emerging empirical evidence highlights the dual role of shadow banking in promoting financial market efficiency while exacerbating systemic risks (Claessens et al., 2012; Akomolafe & Ani, 2023). Recent studies emphasize its contributions to financial deepening and market liquidity but also caution against its potential to disrupt traditional banking systems through heightened competition and deposit migration (Adegbite & Kucuk, 2020). Building on these foundations, this study investigates the causal relationships between shadow banking activities and market capitalization, a proxy for market-based financing within this nascent period during which this contemporary issue has been developing.

The research problem lies in understanding how shadow banking influences market-based financing in Nigeria, given the dual challenge of fostering financial inclusion and managing systemic risks. Existing studies highlight the sector's significance and potential risks, yet a comprehensive analysis of its effect on specific financial sectors remains limited. This study bridges this gap, providing insights for policymakers and regulators to harness the benefits of shadow banking while ensuring financial stability by offering strategies for sustainable financial innovation in Nigeria.

2.0 Literature Review

Shadow Banking

McCulley (2007) defined Shadow banking as financial institutions and activities that perform bank-like functions, such as credit intermediation and maturity transformation, but operate outside the traditional, regulated banking system. McCulley originally used the term to highlight how these entities rely on wholesale funding rather than deposits. Gorton and Metrick (2010) define shadow banking as a system of credit intermediation involving entities and activities outside the regular banking system that are funded through short-term liabilities and are vulnerable to runs, much like traditional banks but without comparable safeguards.

Financial Stability Board (2011) describes shadow banking as credit intermediation involving entities and activities outside the regulated banking system that may pose systemic risk, particularly through leverage, maturity mismatch, and interconnectedness with banks. Pozsar

et al. (2010) define Shadow banking as a network of specialized financial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees. This definition emphasizes structure and functional roles rather than legal form.

Since 2023, policymakers and scholars increasingly view shadow banking as a permanent and central component of the global financial system. By the early 2020s, non-bank financial institutions held assets comparable to, or exceeding, those of traditional banks in many advanced economies (FSB, 2023). Current debates focus on improving data availability, addressing cross-border regulatory gaps, and adapting oversight to evolving forms of non-bank finance, including private markets and fintech-enabled lending. The prevailing post-crisis perspective is that financial stability depends not only on bank regulation, as emphasized before 2008, but on continuous monitoring and management of risks across the entire financial system (Adrian et al., 2024).

Market Based Financing

Adrian and Shin (2010) define Market-based financing as a financial system in which credit is created and allocated through capital markets rather than through deposit-taking banks, relying on securitization, wholesale funding, and market prices to support lending. Also, Pozsar et al. (2010) describe market-based financing as a system of credit intermediation that operates through markets and non-bank financial institutions, using tradable securities instead of bank balance sheets to fund economic activity.European Central Bank (ECB) (2014) defines market-based financing as the provision of funds to borrowers through financial markets, including equity issuance, bond markets, and securitization, as opposed to bank loans.

Similarly, financial Stability Board (FSB) (2015) views market-based financing as credit intermediation that takes place through market instruments and non-bank entities, highlighting its role in diversifying funding sources while also posing potential systemic risks.
Gorton and Metrick (2012) frame market-based financing as a system in which short-term market instruments, such as repos and asset-backed securities, fund longer-term assets, making the system efficient but vulnerable to liquidity stress.

Market-based financing refers to the process of raising capital through financial markets rather than relying on traditional bank lending (Financial Stability Board, 2024). This approach encompasses a wide range of activities and instruments, including the issuance of bonds, equities, and other securities, enabling businesses and governments to access funding directly from investors (Li, 2024). As a critical component of modern financial systems, market-based financing is perceived as an alternative to bank-centric funding models and contributes to economic diversification and growth (Akomolafe & Ani, 2023). By issuing securities such as corporate bonds or equities, entities can raise substantial capital while avoiding the constraints of bank loans, such as credit limits or stringent collateral requirements (Nath & Chowdhury, 2021). Furthermore, market-based financing allows organizations to align their funding structures with their specific financial strategies and needs, such as adjusting the maturity and cost of capital (Beck et al., 2020). Financial markets facilitate the efficient allocation of capital by directing resources toward projects and entities with the highest expected returns and this process supports innovation, entrepreneurship, and long-term investments in sectors requiring significant upfront capital, including technology, infrastructure, and renewable energy (Carney, 2021). Additionally, market-based financing diversifies funding sources, reducing systemic risks associated with reliance on traditional banking channels and enhancing financial stability (Alliance for Financial Inclusion, 2018).

Despite its benefits, market-based financing introduces challenges, particularly market volatility, which can affect the cost and availability of capital during periods of economic uncertainty (Ilsanmi & Tewari, 2019). Overdependence on short-term funding instruments, such as commercial paper, may expose borrowers to refinancing risks and liquidity pressures. Robust regulatory and oversight frameworks are essential to mitigate these risks by ensuring transparency, protecting investors, and promoting market integrity (Adrian & Liang, 2021). The emergence of green finance and sustainable bonds represents a significant trend within market-based financing and these instruments align capital-raising activities with environmental, social, and governance (ESG) objectives, reflecting increasing investor demand for sustainable investment opportunities (Banque de France, 2018). The global rise in green bond issuance underscores a shift toward financing models that support the transition to a low-carbon economy (Ehlers et al., 2020). Technological advancements, particularly in financial technology (fintech), have reshaped market-based financing, enabling the growth of online platforms and digital marketplaces that facilitate securities issuance and trading andthese developments reduce costs and improve accessibility for smaller enterprises and retail investors (Manalo et al., 2015). By democratizing access to capital markets, fintech innovations promote inclusivity and foster economic development in underrepresented regions (Haddad & Hornuf, 2019).

Market -based financing metric involves evaluating the extent to which entities, such as corporations or governments, rely on financial markets rather than traditional bank loans to obtain funding (Akomolafe & Ani, 2023). This measurement is vital for understanding the role and impact of financial markets on economic development, financial stability, and investment activities. A key indicator is the issuance of debt securities, particularly corporate bonds, which offer insights into the scale and growth of market-based debt financing (FSB, 2015). The depth of bond markets relative to the size of an economy is often assessed using the ratio of outstanding corporate bonds to gross domestic product (GDP) (Beck et al., 2020). Equity financing is another critical measure, encompassing the volume of capital raised through initial public offerings (IPOs) and secondary public offerings (SPOs). The frequency and size of these offerings reflect the attractiveness and accessibility of equity markets (Financial Stability Board [FSB], 2015). Stock market capitalization as a percentage of GDP complements this measure, serving as a widely used indicator of the importance of equity markets within an economy (Svirydzenka, 2016).

Market liquidity is also essential for assessing market-based financing, as it enables efficient capital allocation and reduces transaction costs for issuers and investors which is often measured using turnover ratios in stock or bond markets, representing trading activity relative to total market capitalization or outstanding securities (Adrian et al., 2021). High turnover ratios indicate active investor participation, which is critical for the smooth functioning of market-based financing systems (Asset Management and Insurance Regulations, 2017). Diversification of funding sources is another measurement dimension, involving the evaluation of funding obtained through various instruments, such as bonds, equities, and structured finance products. A higher proportion of funding from diverse market-based instruments indicates a shift from traditional bank-centered systems (Carney, 2021). In an increasingly globalized financial system, cross-border financing flows provide additional insights into market-based financing. Indicators such as foreign investor participation in domestic bond and equity markets or international bond issuance highlight the integration and openness of financial markets (Ehlers et al., 2020). Technological advancements have introduced new metrics for assessing market-based financing, including the growth of digital platforms and

fintech innovations. Metrics tracking crowdfunding and peer-to-peer lending activity offer insights into this emerging aspect of market-based financing (Haddad & Hornuf, 2019).

Market-based financing involves unleveraged investments in financial instruments like stocks and bonds, providing capital to the real economy without introducing systemic risks. Activities such as securitization, lending, and securities intermediation when devoid of significant asset-liability mismatches or dependence on official sector backstops that offer diverse capital sources for economic growth (Adrian & Liang, 2021). This characteristic differentiates it from risks inherent in traditional banking, which rely on safety-net mechanisms (Carney, 2021). Therefore, regulatory oversight must be proportionate and tailored to specific risks to ensure both financial stability and market efficiency (Ehlers et al., 2020).

Examining market-based financing requires a multifaceted approach. Key indicators include debt and equity issuance, market liquidity, funding diversification, cross-border flows, and technological innovations which is encapsulated in the entire market capitalization. Together, these metrics provide a comprehensive understanding of the evolution and role of market-based financing in the modern financial system.

Market-Based Financing in Nigeria

Market-based financing in Nigeria has gained traction, especially as the government seeks alternative capital sources for large infrastructure projects and economic development (Fadare & Fapohunda, 2014). The Nigerian bond market, including both corporate and government bonds, has grown significantly, while the Nigerian Stock Exchange (NSE) plays a crucial role in enabling firms to raise capital through equity issuance (Akanbi & Dada, 2020). Empirical studies show that market-based finance positively impacts capital formation and economic growth. Akanbi and Dada (2020) noted that the growth of market-based financing has enhanced liquidity and provided businesses with financing alternatives, especially those lacking access to bank loans. However, challenges such as limited market depth and investor confidence remain.

Non-bank financial institutions, such as pension funds and insurance companies, have played an essential role in driving investments in the securities market, helping to develop structured financial products like asset-backed and mortgage-backed securities. Fadare and Fapohunda (2014) found that pension funds have contributed to diversifying investments and supporting stock market stability. Despite these positive developments, Ogar et al. (2023) highlighted risks such as stock market volatility and difficulties faced by businesses in accessing capital markets. The study also emphasized the need for stronger regulatory frameworks to enhance investor confidence and ensure market stability. While market-based financing offers diversification opportunities, inadequate oversight and low liquidity continue to hinder its growth in Nigeria.

Theoretical Framework

Hyman Minsky's Financial Instability Hypothesis

This theory provides valuable insight into the dynamics of shadow banking and market-based financing, particularly in terms of how disturbances in financial markets can affect the pricing of financial assets and the ability of economic agents to service debt. According to Minsky (1977), financial markets are inherently unstable, with speculative borrowing and lending exacerbating this instability. In Minsky's view, the value of assets that firms hold plays a crucial role in their investment decisions, and the ability to meet debt obligations determines their access to additional financing (Minsky, 1977). This framework can be used to understand

the mechanisms of shadow banking and market-based financing, both of which facilitate credit creation and investment outside traditional banking channels.

Market-based financing, which includes instruments such as securitization, commercial paper, and repurchase agreements, mirrors the speculative dynamics Minsky described. These financial instruments allow for the creation of credit, often with fewer regulatory constraints than traditional bank lending, contributing to the financial system's instability (Pozsar et al, 2010). According to Minsky's model, firms relying on market-based finance are particularly vulnerable to fluctuations in asset values. As the value of their holdings increases, firms are more inclined to borrow and invest, anticipating high returns that will enable them to meet future debt obligations. This speculative behavior is one the features of the shadow banking system, it creates a framework funding sources such as hedge funds, money market funds, and private equity making it assuming roles of the traditional banking system (Adrian & Ashcraft, 2012).

The reliance on market-based finance and shadow banking entities can exacerbate financial instability, as it increases the interconnectedness of the financial system. The growth of these non-bank financial intermediaries, while enabling credit creation, also heightens the risk of financial crises, particularly when asset prices fall or when debtors struggle to meet repayment obligations (FSB, 2015). Minsky's (1977) hypothesis highlights how financial disturbances can lead to a cascading effect where the inability of firms to meet debt obligations leads to a broader market correction. As asset values decline, firms that are heavily reliant on speculative debt financing through shadow banking mechanisms may face liquidity crises, which could trigger a wider financial collapse.

Thus, Minsky's theory provides a critical lens through which we can understand the role of shadow banking and market-based financing in fostering financial instability. The debt-driven and asset-based speculation underlying these systems reflects Minsky's argument that disruptions in financial markets undermine firms' access to external finance and their capacity to access credit, thereby increasing systemic risk (Minsky, 1977; Pozsar et al., 2010). A shadow banking index captures this structural shift in a quantitative way by measuring the scale and intensity of non-bank financial intermediation relative to banks or the broader economy. This theory argues that a rising shadow banking index signals a growing dominance of speculative and Ponzi finance and therefore increasing systemic fragility. When asset prices stop rising or market liquidity tightens, refinancing channels embedded in shadow banking and market-based finance can break down rapidly. Finally this theory argued that credit creation, shadow banking, market-based financing, and the shadow banking index are not separate phenomena but interconnected expressions of the same endogenous instability. Over time, financing structures evolve from hedge finance, where cash flows cover both interest and principal, toward speculative and eventually Ponzi finance, where repayment depends increasingly on refinancing and continued asset price appreciation.

Empirical Reviews

A large strand of the literature focuses on the implications of shadow banking for financial stability and systemic risk, with most studies pointing to heightened vulnerability, especially during periods of stress. Cross-country evidence by Zarei et al. (2021) shows that in G20 countries with high shadow banking intensity, increases in shadow banking activity significantly amplify financial instability, while the effect is negligible in countries where the sector is less developed. This finding aligns with Hong and Hongjie (2020), who, using a

dynamic interbank network model, demonstrate that shadow banking accelerates bank failures and reduces survival rates by intensifying interconnectedness within the financial system.

Studies emphasizing market-based linkages reach similar conclusions. Gennaioli et al. (2012) and Claessens et al. (2012) both argue that close ties between shadow banking and market-based finance worsen liquidity mismatches and contagion risks, particularly during crises. However, while Gennaioli et al. stress crisis amplification through liquidity and maturity transformation, Claessens et al. highlight the complementary role of shadow banking in financial innovation, suggesting a trade-off between efficiency and stability rather than a purely negative effect.

Country-specific evidence reinforces these concerns. Li (2024) finds that in China, shadow banks' dependence on uninsured interbank funding and wealth management products weakened monetary policy transmission and intensified risk contagion during the COVID-19 period. Wu and Shen (2019) also confirm that Chinese banks engaged in shadow banking activities exhibit higher risk-taking, although strong corporate governance can partially offset these risks. Taken together, these studies agree on the destabilizing potential of shadow banking but differ on the extent to which institutional quality and governance can mitigate adverse outcomes.

In contrast to the stability-focused literature, another stream emphasizes the growth-enhancing role of shadow banking, particularly in credit-constrained economies. Akomolafe and Ani (2023) find that over the long run, shadow banking supports economic growth in Nigeria by diversifying credit sources and reducing pressure on traditional banks. Similar evidence is provided by Acharya et al. (2013) for India, where lending to non-bank financial companies served as an alternative channel for credit allocation, especially outside urban centers.

At the firm level, Ogar et al. (2023) show that shadow banking loans positively affect MSME performance in Nigeria, suggesting that the sector can enhance financial inclusion. However, their finding that shadow banking savings products negatively affect MSMEs introduces an important nuance, indicating that not all shadow banking services uniformly promote firm performance. These mixed results suggest that the impact of shadow banking depends on the specific instruments involved and the cost structure faced by users. While these studies highlight the developmental benefits of shadow banking, they often treat growth outcomes in isolation, paying limited attention to the associated systemic risks identified in the stability literature. This creates an unresolved tension between shadow banking as a growth facilitator and as a source of financial fragility.

Several studies focus explicitly on regulation and policy transmission. In Nigeria, Olalekan and Oluwaseun (2019) document how shadow banking entities exploit regulatory arbitrage to bypass capital requirements, increasing opacity and vulnerability during crises. Adegbite and Kucuk (2020) similarly note that although non-bank financial institutions improve liquidity and credit availability, weak oversight and reliance on short-term funding expose the system to shocks. From a monetary policy perspective, Tule and Onipede (2017) find only a short-run relationship between shadow banking and the Central Bank of Nigeria's policy instruments, with no long-run integration. Li (2024) extends this concern by showing that shadow banking can actively weaken monetary policy transmission in China during crisis periods. These findings contrast with growth-oriented studies that implicitly assume benign macroeconomic effects, revealing an inconsistency in how shadow banking's macro-financial role is understood.

Gaps and Justification for the Current Study

Overall, the literature reveals three key gaps. First, there is a clear inconsistency between studies that emphasize the growth and inclusion benefits of shadow banking and those that document its destabilizing effects, with limited empirical work integrating both dimensions in a single framework. Second, much of the evidence is either cross-country or country-specific, making it difficult to generalize findings across different regulatory and institutional contexts. Third, while recent studies such as Li (2024) incorporate crisis periods, there remains limited post-pandemic empirical analysis that jointly examines shadow banking, financial stability, and policy effectiveness in emerging economies.

3. Methodology

This study covers the period from 2018 to 2023, examining the role and impact of non-banking financial sectors in the Nigerian financial market. This period was chosen because it within the period that this sector witnessed a dramatic shift. A purposive sampling technique was employed to select four sectors (Insurance Companies, Primary Mortgage Banks, Finance Houses, Microfinance Banks) based on data availability, ensuring a focused analysis of sectors with reliable and relevant data. This approach facilitates a meaningful investigation within the study's constraints. Data were sourced from CBN Statistical Bulletin and PENCOM Annual Reports.

Model Specification

The model of Zarei et al., (2021) is specified for this study and stated in mathematical formas follows:

The regression model reads thus:

$$INSTBL = \alpha 0 + \beta 1SHADOWit + \beta 2GGDPit + +\beta 3GM2it + \beta 4CREDITit + +\beta 5INFit + eit -1$$

Where:INSTABL= Financial instability index measured as principal component factor that consists of three criteria: change in the interest rates, change in the domestic credit to the private sector, and change in the ratio of money to GDP

SHADOW= Shadow Banking Index measured as the ratio of assets of shadow banks to the total assets of financial intermediaries

GGDP= Growth in Gross Domestic Product measured as Percentage change in the real GDP compared to the previous period

GM2= M2 Growth measured as percentage change in the liquidity compared to the previous year, Credit= Domestic credit to the private sector (GDP ratio)

The model of Zarei et al. (2021) is adapted by the study and stated in econometric form as follows:$MBF = F(SB) - II$

SB= (SECI, CREDIT, ABM, LEV, SBI)

$$MBF = \beta O + \beta 1SECIit + \beta 2CREDITit + \beta 3ALMit + \beta 4LEVit + \beta 5SBIit + eit - III$$

Where:MBF= Market based Financing, SECI= Securitization Intermediation

CREDIT= Credit Creation, ALM= Assets-Liabilities Mismatch, LEV= Leverage

SBI=Shadow Banking Index,

The a priori expectation is β1- β5> 0= coefficient of the predictor

e= Error term= unexplained variable, t= time**,** β0= constant term or intercept.

Table 1:
Variable Measurement and Source

Variables	Definition	Type	Measurement	Apriori Sign	Source
MBF	Market Based Financing	Dependent	Log of Market Capitalization	Nil	Levine and Zervos (1998)
SECI	Securitization Intermediation	Independent	Loan+Mortgage+Receivables/Total Assets	+	Tule and Onipede (2017)
CREDIT	Credit Creation	Independent	Deposit/Total Assets	+	Tule and Onipede (2017)
ALM	Assets/Liabilities Mismatch	Independent	liquid Assets/Short term liabilities	+	Brigham& Ehrhardt (2017)
LEV	Leverage	Independent	Measured as Total Debt capital divided by Total Assets	+	Fagbemi et al. (2019)
SBI	Shadow Banking Index	Independent	Sectoral Shadow bankTotal Assets /Market Capitalization	+	Zarei et al. (2021)

Source: Researcher's compilation (2025).

Method of Data Analysis

This study employs the Ordinary Least Squares (OLS) estimation method to examine the relationship between the key explanatory variables and the dependent variable. OLS is chosen because it provides a transparent and efficient baseline estimation framework and allows for straightforward interpretation of coefficient estimates. Under the classical linear regression assumptions, OLS yields unbiased and efficient parameter estimates, making it a widely accepted starting point in empirical economic research. These data properties justify the use of OLS as a baseline estimator while highlighting the need for robustness checks to account for potential endogeneity.

Given that the data set has a panel structure, a fixed effect panel least square regression analysis was performed and this analytical method suite the study because helps to eradicate the problem of autocorrelation or heteroskedasticity through weight embedded in the model. To support the analysis, these descriptive statistics were used. The Breusch-Godfrey serial correlation LM test, the variable inflation factor test of multicollinearity, ARCH

heteroskedasticity test, E-view 10 statistical application software is utilized to enhance statistical inference and empirical evidence. These techniques were used to increase the impact ability of the explanatory variables on market-based financing in Nigeria.

4. Data Presentation and Analysis

The Variance Inflation Factor (VIF) estimates are used to assess multicollinearity in the model. If the VIF estimates are below five (5), it indicates that multicollinearity is not a concern. VIF values above five (5) suggest moderate multicollinearity, which is manageable. However, if the VIF exceeds 10, it indicates the presence of a significant multicollinearity problem.

Table 2
Variance Inflation Factor estimates

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	0.052935	63.22271	NA
SECI	0.054091	23.13439	5.923382
CREDIT	0.096824	7.441704	3.113182
ALM	0.007045	9.475498	6.040840
LEV	0.057952	33.56427	2.341602
SBI	1.136067	2.977569	1.506670

Source: Author's Compilation (2025).

The centered variance inflation factor (VIF) values of Securitization Intermediation (SECI), Credit Intermediation (CREDIT), Assets-Liabilities Mismatch (ALM), Leverage (LEV), Shadow Banking Index (SBI). are 5.9233, 3.1131, 6.0408, 2.3416, and 1.5066, respectively. Since all these values are less than 10, it indicates that there is no multicollinearity problem among the variables.

Diagnostic Test

The Breusch-Godfrey serial correlation LM test checks for autocorrelation in regression errors. A P-value greater than 0.05 indicates no autocorrelation. The heteroskedasticity test assesses if the independent variable adequately explains the dependent variable, leaving residual variance unchanged. The ARCH test evaluates the null hypothesis that residuals show no conditional heteroskedasticity. If the P-value is greater than 0.05, it suggests the model is homoscedastic, not heteroskedastic.

Table 3.
Diagnostic Test Estimates

Diagnostic test	**P-value**	**Significance Level**	**Decision**
Breusch-Godfrey Serial Correlation LM Test:	0.4282	0.05	No autocorrelation
Heteroskedasticity Test: ARCH	0.2310	0.05	Homoskedastic

Source: Researcher's Computation (2025).

The Breusch–Pagan LM test produced a p-value of 0.4282, while the ARCH heteroskedasticity test yielded a p-value of 0.2310. Since both p-values exceed the 5 percent significance level, the null hypotheses cannot be rejected. This indicates the absence of serial correlation and confirms that the error variance is constant. Consequently, the model does not suffer from autocorrelation or heteroskedasticity, and the estimated coefficients can be considered reliable and efficiently estimated.

Regression Results

To examine the effect of shadow banking on market-based financing in Nigeria, a fixed effects panel least squares regression model was used. This approach was chosen because the number of variables exceeded the cross-sectional units, preventing the use of the Hausman test. The fixed effects model assumes that individual effects are uncorrelated with the regressors and controls for entity-specific heterogeneity by demeaning or differencing the data. If the p-value is less than 0.05, the null hypothesis is rejected in favor of the alternative. The regression results are presented in Table 4.

Table 4: Regression Results

Dependent Variable: MBF **Method: Panel Least Squares**				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	3.6011	0.3161	11.3911	0.0000
SECI	0.2782	0.7058	0.3942	0.6990
CREDIT	2.1093	0.7819	2.6976	0.0165
ALM	0.3195	0.0832	3.8416	0.0016
LEV	0.1914	0.2106	0.9089	0.3778
SBMC	3.2230	0.9259	3.4810	0.0034
R-squared	0.759388	**Durbin-Watson stat**	1.642704	
Adjusted R-squared	0.631062	F-statistic	5.917639	
S.E. of regression	0.110643	Prob(F-statistic)	0.001587	

Source: Author's Compilation (2025).

The Durbin-Watson statistics of 1.642704 which is within the acceptable benchmark of 1.5 to 2 shows that there no evidence of autocorrelation in the residuals.The R-squared value of 0.7594 indicates that approximately 75.94% of the variation in market-based financing (MBF) within Nigeria's shadow banking sector is explained by the model's independent variables. The adjusted R-squared of 0.6311 suggests a strong fit, accounting for the number of predictors. The F-statistic of 5.9176, with a p-value of 0.0016, confirms the overall statistical significance of the model.

Test of Hypothesis

Ho1: Securitization intermediation has no significant effect on market-based financing in Nigeria.

The estimated coefficient of 0.2782 suggests a positive economic relationship between securitization intermediation (SECI) and market-based financing (MBF) in Nigeria. Economically, this implies that a one-unit increase in securitization intermediation is associated with an approximate 27.8 percent increase in market-based financing, holding other factors constant. The positive sign is consistent with theoretical expectations, as securitization can expand funding sources by transferring risk and improving liquidity in financial markets.

However, despite this positive magnitude, the relationship is not statistically significant. The t-statistic of 0.3942 is well below conventional critical values, and the p-value of 0.6990 exceeds the 5 percent significance threshold. This indicates that the estimated effect is imprecise and could be driven by random variation rather than a systematic relationship. As a result, the null hypothesis of no effect cannot be rejected

Ho2: Credit intermediation has no significant effect on market-based financing in Nigeria.
The coefficient of 2.1093 for Credit Intermediation (CREDIT) indicates that credit intermediation has a strong positive effect on market-based financing (MBF) in Nigeria. Specifically, a one-unit increase in credit intermediation leads to an average increase of about 2.11 units in market-based financing, holding other factors constant. This magnitude suggests that credit intermediation is not only statistically significant but also economically meaningful, as changes in credit flows translate into more than proportional growth in market-based financing activities.

The t-statistic of 2.6976 and the p-value of 0.0165 confirm that this effect is statistically significant at the 5 percent level, leading to the rejection of the null hypothesis (H_{02}). From an economic perspective, the result implies that enhanced credit intermediation deepens financial markets by supporting the expansion of market-based instruments, possibly through improved liquidity, investor participation, and risk sharing. This finding underscores the importance of policies that strengthen credit channels, as they can meaningfully stimulate the development of Nigeria's market-based financial system rather than merely producing statistically detectable effects.

Ho3: Assets-LiabilitiesMismatch has no significant effect on market-based financing in Nigeria.

The coefficient of 0.3195 for Assets–Liabilities Mismatch (ALM) indicates a positive relationship with market-based financing (MBF) in Nigeria. Economically, this implies that a one-unit increase in ALM is associated with an average increase of about 0.32 units in MBF, holding other factors constant. Although the magnitude is smaller than that of credit intermediation, it remains meaningful, suggesting that balance-sheet maturity transformation plays a noticeable role in supporting market-based financing activities.

The strong t-statistic of 3.8416 and the very low p-value of 0.0016 confirm that this relationship is statistically significant, leading to the rejection of the null hypothesis (H_{03}). From an economic perspective, the result suggests that greater assets–liabilities mismatches, often reflecting short-term funding used to finance longer-term instruments, contribute to the expansion of market-based finance by increasing liquidity and funding availability. However, while such mismatches may stimulate MBF growth in the short run, they may also increase vulnerability to liquidity shocks. This highlights an important policy trade-off: ALM can support market development, but excessive mismatches may pose financial stability risks if not properly regulated.

Ho4: Leverage has no significant effect on market-based financing in Nigeria.

The coefficient of 0.1914 for Leverage (LEV) suggests a positive association with market-based financing (MBF) in Nigeria. Economically, this implies that a one-unit increase in leverage is associated with an average increase of about 0.19 units in MBF, holding other factors constant. However, the relatively small magnitude indicates that leverage contributes

only modestly to the expansion of market-based financing compared with other financial structure variables.

The low t-statistic of 0.9089 and the p-value of 0.3778 indicate that this effect is not statistically significant, leading to the acceptance of the null hypothesis (H_{04}). From an economic standpoint, this suggests that variations in leverage do not play a decisive role in driving market-based financing in Nigeria. This may reflect limited reliance on debt-financed balance sheet expansion for market-based activities or the presence of regulatory constraints and risk aversion that dampen the transmission of leverage into capital market development.

Overall, while leverage shows a positive direction, its weak magnitude and lack of statistical significance imply that policies aimed solely at increasing leverage are unlikely to produce meaningful gains in market-based financing without complementary reforms in credit intermediation, market depth, and institutional quality.

Ho5: Shadow banking has no significant effect on market-based financing in Nigeria.

The coefficient of 3.2230 for Shadow Banking (SBI) indicates a strong positive relationship with market-based financing (MBF) in Nigeria. Economically, this implies that a one-unit increase in shadow banking activity is associated with an average increase of about 3.22 units in market-based financing, holding other factors constant. This large magnitude suggests that shadow banking is a major driver of market-based finance, exerting a stronger influence than traditional balance-sheet variables such as leverage or assets–liabilities mismatch.

The robust t-statistic of 3.4810 and the low p-value of 0.0034 confirm that this effect is statistically significant, leading to the rejection of the null hypothesis (H_{05}). From an economic perspective, the result implies that shadow banking institutions play a critical role in deepening Nigeria's capital markets by channeling funds into market-based instruments, enhancing liquidity, and broadening access to non-bank sources of finance.

However, while the strong positive effect underscores the contribution of shadow banking to market development, it also raises important policy considerations. Rapid expansion of shadow banking may increase interconnectedness and risk transmission within the financial system. Therefore, the economic significance of SBI lies not only in its capacity to stimulate market-based financing but also in the need for balanced regulation that allows its market-deepening benefits while containing potential systemic risk

Discussion of Findings

The findings indicate that securitization intermediation does not exert a statistically significant effect on market-based financing (MBF) in Nigeria. This outcome is consistent with Li (2024) and Gennaioli et al. (2012), who argue that although securitization can facilitate market-based finance, its effectiveness depends heavily on market depth, investor confidence, and regulatory capacity.

In the context of an emerging economy such as Nigeria, the weak statistical effect can be explained by structural and institutional constraints. Nigeria's securitization market remains relatively shallow, characterized by limited issuance, low secondary market liquidity, and a narrow investor base dominated by institutional investors. These conditions restrict the ability of securitized instruments to scale up and significantly influence broader market-based financing. In addition, regulatory uncertainty, information asymmetry, and weak credit rating

infrastructure reduce investor appetite for securitized assets, dampening their transmission into MBF growth.

Although the relationship is statistically insignificant, the positive coefficient supports a priori expectations and aligns with financial contagion theory, which suggests that securitization can transmit funding and risk across market segments. Economically, this implies that securitization has the potential to contribute to market-based financing, but this potential is not fully realized under prevailing market inefficiencies. The study further reveals that Assets–Liabilities Mismatch (ALM) has a statistically significant positive effect on market-based financing (MBF) in Nigeria. This finding is consistent with Akomolafe and Ani (2023), who emphasize the role of financial institutions in diversifying credit sources and supporting economic growth in developing economies.

In an emerging economy context such as Nigeria, the positive effect of ALM can be explained by the structure of the financial system, where long-term funding sources are limited and financial institutions rely heavily on short-term liabilities to finance longer-term assets. This maturity transformation allows banks and shadow banking institutions to mobilize short-term funds and channel them into market-based instruments, thereby expanding liquidity and supporting the growth of MBF However, the economic significance of this result also reflects a trade-off common in emerging economies. While assets liabilities mismatches can enhance MBF by easing funding constraints and supporting market activity, excessive mismatches may increase exposure to liquidity shocks if market conditions deteriorate.

The findings of this study indicate that leverage does not have a statistically significant effect on market-based financing (MBF) in Nigeria. This result is consistent with Olalekan and Oluwaseun (2019), who emphasize the risks associated with excessive leverage in the shadow banking sector. However, in the Nigerian context, the limited impact of leverage on MBF reflects deeper structural and institutional characteristics of an emerging financial system.

In emerging economies like Nigeria, leverage is often constrained by regulatory oversight, risk aversion, and underdeveloped capital markets. Financial institutions and non-bank intermediaries tend to adopt cautious leverage positions due to volatile macroeconomic conditions, high interest rate environments, and weak investor confidence. As a result, increases in leverage do not translate directly into expanded issuance or trading of market-based instruments, limiting its influence on MBF growth.

The findings of this study reveal that shadow banking has a statistically significant positive effect on market-based financing (MBF) in Nigeria. This result is consistent with earlier studies by Tule and Onipede (2017), Akomolafe and Ani (2023), and Adegbite and Kucuk (2020), which highlight the role of shadow banking in enhancing liquidity, expanding access to both short- and long-term credit, and supporting securitization activities that underpin market-based finance.

In an emerging economy such as Nigeria, traditional banks are often constrained by stringent capital requirements, risk aversion, and limited outreach to small firms and non-traditional borrowers. Shadow banking institutions step in to fill this gap by providing alternative funding channels, faster credit delivery, and more flexible financial products, thereby directly supporting the expansion of market-based financing.

The observed relationship aligns with a priori expectations and is consistent with financial contagion theory, which emphasizes the interconnectedness of financial intermediaries and markets. In Nigeria, shadow banking entities are closely linked to capital markets through instruments such as commercial papers, private placements, and asset-backed securities. While this contributes positively to market-based financing, it also increases systemic interconnectedness, underscoring the need for balanced regulation that preserves the growth-enhancing role of shadow banking while containing potential financial stability risks..

5.0 Recommendations

Based on the empirical findings, the following policy recommendations are proposed to strengthen market-based financing in Nigeria while safeguarding financial stability.

First, policymakers should promote the development of a well-regulated securitization market. Since securitization intermediation positively influences market-based financing, regulatory frameworks should encourage transparent and standardized securitization practices. This includes improving disclosure requirements, strengthening credit rating processes, and building investor confidence to ensure that securitization contributes to sustainable market growth rather than excessive risk-taking.

Second, efforts to strengthen credit intermediation should be sustained. The strong positive impact of credit intermediation on market-based financing suggests that banks and other credit institutions remain critical to the development of capital markets. Policies that improve credit access, reduce non-performing loans, and enhance bank capitalization will support both bank-based and market-based financing, reinforcing their complementary roles in Nigeria's financial system.

Third, regulators should closely monitor and manage assets–liabilities mismatches within financial institutions. Although ALM contributes positively to market-based financing, excessive maturity mismatches pose potential financial stability risks. Prudential regulations, such as stricter liquidity requirements and enhanced stress testing, should be enforced to limit systemic vulnerabilities while allowing institutions to engage in productive maturity transformation.

Fourth, leverage levels should be carefully managed. Given its positive but relatively small contribution to market-based financing, leverage should not be encouraged indiscriminately. Regulatory authorities should maintain prudent leverage ratios and strengthen macroprudential oversight to prevent excessive debt accumulation that could undermine financial stability.

Finally, the rapid expansion of shadow banking activities calls for a balanced regulatory approach. While shadow banking is a major driver of market-based financing, its size and influence highlight the need for effective oversight. Policymakers should extend appropriate regulatory coverage to shadow banking entities, improve data collection, and enhance coordination among regulatory agencies. This will help harness the benefits of shadow banking for market-based finance while minimizing systemic risks.

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