Effect of Mortgage Loans on the Performance of Real Estate Industry in Nigeria

Lukman Olayiwola Mustapha[1] Jamila Shua'ra[2] Nuhu Mohammed[3]

Department of Business Management and Marketing[123]
Baze University, Abuja[123]

Abstract
Real estate industry performance has continued to generate debate in the developing nations. The objective of the study is to examine the effect of mortgage loans on the performance of real estate industry in Nigeria. The study employed an ex-post facto design. The method of data collection is secondary. Drawing on annual secondary time-series data from the Central Bank of Nigeria Statistical Bulletin. The population of the study is twenty-five (25) years. This study covers the 2000–2024 period. The data were analyzed with the use of descriptive statistics, correlation analysis, and unit root test; while ordinary least squares was used to analyse the model. The findings revealed that primary mortgage bank loans have a significant effect on the performance of the real estate industry in Nigeria. The findings also showed that national housing fund loans have significant effect on performance of real estate industry in Nigeria. The findings also showed that rent-to-own loans, have significant effect on the performance of the real estate industry in Nigeria. Finally, the finding revealed that estate development loans have a significant effect on performance of real estate industry in Nigeria. The outcome of the study underscores the critical role of credit-window design: broad-based mortgage and housing-fund expansions, when insufficiently targeted or poorly administered, may exacerbate market volatility. The study recommended that quick adoption of flexible and demand-responsive instruments such primary mortgage bank loans, national housing fund loans, rent-to-own loans, and estate development loans, foster sustained real estate industry growth. It further recommended that the Central Bank of Nigeria and mortgage institutions should improve credit risk evaluation and ensure that disbursed loans are properly aligned with viable housing projects. Monitoring and compliance mechanisms should be enhanced and the mortgage scheme should be restructured to eliminate bureaucratic delays.

Keywords: *Real Estate Industry Performance, National Housing Funds, Mortgage Loans, Primary Mortgage Institutions, Housing Finance*

1. Introduction

Real estate industry is confronted by various issues and challenges globally, which vary based on region, market maturity, and economic conditions. The performance of the industry faces numerous challenges, including economic volatility, fluctuating interest rates, regulatory and legal complexities, and geopolitical risks that impact investor confidence and market stability (Ali, et al., 2025). Additionally, climate change, sustainability demands, and shifting demographics influence property values and development trends, while technological disruption and evolving consumer preferences reshape market dynamics. These challenges are compounded by inconsistent valuation standards, liquidity constraints, and operational risks, making it essential for stakeholders to adopt strategies to ensure resilience and long-term growth in an increasingly complex global landscape (Lynch 2025; Serlin, 2021; Lopez, 2023).

The world is facing disturbing cases of homelessness arising from acute housing deficits as contended by many scholars. According to Masterson's 2025 research, a staggering 1.6 billion people across the globe currently struggle without proper housing. This crisis is projected to escalate dramatically, potentially affecting nearly 3 billion individuals representing four out of every ten people on earth by 2030. The sheer scale of this challenge demands the construction of approximately 96,000 new affordable homes every single day to meet growing needs.

Across Europe, Americas and Asia, the problem of homelessness, housing deficits and mortgage deficiencies abounds. Sumer (2024) infers that many countries in Europe face a severe real estate (housing) deficit, affecting over a third of households, particularly those

with lower incomes. In Latin America and the Caribbean, the quantitative housing deficits, according to Lopez (2023) affect more than 23 million people and the qualitative deficits affect more than 46 million people. The continent of South America also has people lacking adequate housing, and living in inadequate or overcrowded conditions. Padgett, et al., (2020) stated that the narrative is not different in Asia. Countries such as India, Pakistan, Indonesia, Singapore to mention just a few are ridden with different degrees of homelessness and housing deficits.

Africa, as a continent is worst hit with the menace of homelessness and housing deficit, with an estimated shortage of 56 million housing units. This deficit affects both urban and rural areas, exacerbating poverty, inequality, and health issues. Yedder (2023) opined that Africa's housing deficit currently estimated at over 52million units is a "ticking bomb" which needs some urgent attention. This deficit is expected to increase as the continent's population grows, and urbanisation continues.

Nigeria's housing crisis has reached critical proportions. As of 2019, the nation's housing shortfall stood at approximately 15.56 million units, with projections suggesting it could hit 20 million units by 2030 (Behr et al., 2021; World Bank, 2021). Alarmingly, more recent figures indicate that the deficit had already soared to 28 million units by 2023 (Abiola, 2024). Bridging this enormous gap comes at a staggering cost as it is estimated that ₦21 trillion is required to meet current housing needs (Abiola, 2024). These figures underscore the urgency for decisive and sustained action to transform Nigeria's housing sector. House ownership is highly capital intensive as it would require eight to fifteen times annual salary of a medium to low income earner to be able to buy or build a modest residential apartment (Chidi-Okeke, et al., 2020).

Mortgage finance is therefore pivotal. A significant barrier to home ownership in Nigeria lies in the inaccessibility of mortgage financing for the majority of citizens, especially those in the low- and lower-middle-income brackets. Mboto, et al., (2023) identified the inefficiency of the mortgage system as a major factor contributing to the housing shortfall observed in the early 1990s, specifically between 1991 and 1993. This issue has persisted over the decades, with Nigeria continuing to struggle with a very low mortgage-to-GDP ratio, an indication of how underdeveloped the sector remains.

Past administrations have made various attempts to strengthen the mortgage financing system through institutional reforms. Yet, Nigeria still lacks robust and responsive mortgage institutions capable of supporting efficient housing delivery. This has left many families without realistic pathways to home ownership, thereby stalling progress in the broader housing sector (Mboto, et al., 2023).

Instrument design for mortgage finance and not volume alone determines whether credit translates into durable supply or amplifies volatility. Despite the urgency, the national evidence base remains fragmented. Many studies aggregate mortgage activity or rely on cross-sectional narratives, obscuring how specific credit windows primary mortgage bank loans (PMBL), National Housing Fund loans (NHF), rent-to-own (RTOL) products, and estate-development loans (EDL) map onto sector performance over time. Recent scholarship proposes financing frameworks but stops short of window-level, country-wide identification; parallel research on informality and rent dynamics underlines how delivery frictions and demand pressures shape outcomes and risk (Ebekozien, et al., 2025). In the light of this, the present study therefore examines whether Primary Mortgage Bank Loans (PMBL), National Housing Funds Loans (NHFL), Rent To Own Loans (RTOL), and Estate Development Loans (EDL) are associated with measurable improvements in real estate industry performance in Nigeria.

2. Literature Review
2.1 Primary Mortgage Bank Loans and Performance of Real Estate Industry
The 2019 CBN Guidelines for Primary Mortgage Banks characterizes a Primary Mortgage Institution (PMI) as a licensed company authorized to conduct mortgage operations in Nigeria. These operations encompass providing loans or advances to individuals for constructing, improving, or expanding residential and commercial properties, as well as purchasing residential or commercial buildings, among other activities. It is additionally characterized as an institution that typically functions as a bank, whether commercial or savings and loans based. It may be domestically owned, privately owned, or corporate-owned. This institution serves as a money lender to prospective homeowners who utilize these loans to acquire houses, repaying the loan through monthly payments to the mortgage institution.

A primary mortgage bank loans are loans granted by primary mortgage institutions (PMBs) and other mortgage institutions involved in mortgage or real estate business in Nigeria. The borrower commits to compensate the lender gradually, usually through a sequence of consistent payments that are separated into capital and interest (Shuaribu, et al., 2018). The property subsequently functions as security to guarantee the loan. A home loan or simply home financing, represents a loan utilized either by buyers of real property to obtain capital to purchase real estate, or by current property owners to obtain capital for any purpose while placing a claim on the property being financed (Abdullahi, 2020).

Primary Mortgage Banks were primarily tasked with mobilizing public savings and offering loans to individuals. Primary Mortgage Banks (PMBs) sit at the core of Nigeria's housing finance architecture, transforming long-dated savings into mortgages and shaping the transmission from credit supply to sector outcomes. Evidence on Nigeria's housing market shows income, mortgage credit and cost variables co-move with prices and activity, underscoring the importance of how PMBs scale and price loans across the cycle (Okey, 2023).

Mboto, et al., (2023) asserts that Nigeria's persistent housing crisis can largely be traced to the inability of the funds raised by Primary Mortgage Banks (PMBs) amongst others to adequately support large-scale housing development across the country. Primary Mortgage Banks in Nigeria have been saddled with all sort of challenges in the expansion of mortgage lending principal of which is the severe constraints of lack of access to long tenured deposits and long-term capital. A 2012 survey by the Central Bank of Nigeria revealed that the most significant obstacle hindering the growth of the mortgage market was not issues like foreclosure, limited housing supply, or title registration but, rather a deeper problem tied to financial constraints (Kalu & Bruno, 2024).

Hypothesis 1 (H₀₁):
Primary Mortgage Bank Loans has no significant effect on real-estate industry performance

2.2 National Housing Fund Loan and Performance of Real Estate Industry
The National Housing Fund (NHF) was created to enable the steady supply of affordable capital for extended investment in housing for the advantage of all Nigerians. It is a program aimed at pooling low cost funds to enable low- and medium-income earners access affordable housing.

The Fund requires any employer either in the public or private sector in Nigeria who has an employee earning a basic salary of N3,000 per annum to make deductions of 2.5% from the employee's monthly salary and remit same into the Fund. (Oghogho et al., 2020)

The National Housing Fund (NHF) is designed to widen access to long-tenor, below-market mortgages for low- and middle-income contributors, yet programme architecture and governance determine whether concessional credit converts into completed, habitable units. Despite its laudable objectives, housing challenges remain prevalent. The scheme's effectiveness is hindered by several factors, including low awareness among contributors, bureaucratic bottlenecks, and challenges in accessing mortgage loans. Many contributors lack sufficient understanding of their entitlements, leading to underutilization of the scheme's benefits. Additionally, stringent loan requirements, high default rates, and the inefficiency of participating institutions further impede the scheme's success. These challenges raise concerns about the scheme's effectiveness in meeting its objectives (Song, et al, 2025)

Although the National Housing Fund (NHF) in Nigeria offers one of the most competitive interest rates on mortgage loans—currently at 6%—its effectiveness is significantly hindered by several operational bottlenecks. Among these are the consistent failure to disburse approved mortgage loans due to stringent and often unattainable conditions, the inability of Primary Mortgage Banks (PMBs) to present adequate collateral for existing loans, bureaucratic delays in mortgage fund processing, and the statutory requirement for PMBs to provide 20% of the total loan amount, which many institutions struggle to meet (Chiomuna, 2000; Bichi, 2002; Fortune, 2004).

Adedokun et al. (2011) assessed how well the National Housing Fund Scheme was performing in terms of housing delivery across Nigeria. Their findings revealed that the number of Primary Mortgage Institutions (PMIs) operating in the country was inadequate. Moreover, there was a substantial discrepancy between the amount applicants requested and the sums they were actually approved for under the scheme. Taken together, NHF credit can lift sector performance where eligibility, pricing and servicing align with borrowers' repayment capacity and developers' delivery schedules, but weak targeting or slow administration can delay completions and blunt programme impact (Ebekozien et al., 2025; Akinwande et al., 2024; Lu & Wilson, 2024).

Hypothesis 2 (H₀₂):
National Housing Fund Loans has no significant effect on real-estate industry performance

2.3. Rent to Own Loans and Performance of Real Estate Industry
A lease-to-purchase loan represents a form of contract that permits a tenant to rent a property with the choice to purchase it subsequently (Barrack, et al., 2021). It resembles a mortgage, but with some important distinctions. A lease-to-purchase contract is an arrangement in which you agree to renting a property for a particular time period, with the choice of purchasing it before the rental period ends (Chi, et al., 2020). Lease-to-purchase contracts incorporate a typical rental contract and also a choice to purchase the property at a future time.

Rent-to-own is an agreement where a prospective buyer rent a property with the intention to buy it later (Ibuoye, et. al., 2021). Rent-to-own (RTO) instruments smooth the path to ownership by aligning payments with occupancy and gradually transferring title, potentially easing affordability frictions where deposit constraints are binding. Nigerian urban evidence shows that rental costs and demand

pressures remain decisive in household tenure choices, implying room for products that bridge high rents and mortgage entry thresholds (Ozabor et al., 2024).

The rent to own scheme was initially introduced by the Lagos State Government in Nigeria. The scheme is designed to tackle the issue of housing affordability by all citizens irrespective of their income class. The scheme required the prospective beneficiary to make an equity contribution of 5% of the cost of the house and pay the balance over a period of 10years while taking possession and occupation (Oyesomo, et al., 2023)

The Federal Mortgage bank of Nigeria launched her own Rent to Own scheme as an innovative affordable housing product, which provides an easy and convenient payment plan towards homeownership for Nigerian workers. The scheme is specifically designed to make it possible for Nigerian workers to move into FMBN homes as tenants, pay for and own the properties through monthly or yearly rent payments spread over periods of up to 30years (Dangiwa, 2021).

The rent to own loan provided an unusual opportunity for low- and medium-income earners to own a house as a result of its convenient terms which include zero down payment, single interest rates and longer tenure which span up to 30years. The scheme has been described by Umar (2021) as a key to housing affordability. Newer empirical analyses of macroprudential transitions also show that households' movement from renting to owning is sensitive to credit conditions, suggesting RTO performance improves when affordability and risk rules are coordinated with lenders' underwriting (Bolliger, 2025). In this context, RTO schemes can raise sector performance where take-up is targeted to first-time buyers with verifiable incomes and where servicing mirrors cash-flow realities, but may disappoint if pricing, maintenance responsibilities and buy-option terms are opaque (Ozabor et al., 2024; Goodall, 2024; Bolliger, 2025).

Hypothesis 3 (H_{03}):
Rent To Own Loans has no significant effect on performance of real estate industry in Nigeria.

2.4 Estate Development Loans and Performance of Real Estate Industry
According to the Mortgage Bankers Association of Nigeria (MBAN, 2018), EDL is a facility granted to private developers, state housing corporations and housing cooperatives to bridge housing deficits through mass production of houses for sale through mortgages. Estate development loan is a loan designed for property developers, Kamati, (2020) intended for resale. Estate development loans are mortgages designed to finance properties (Barrack et al., 2021). It is a mass housing scheme whereby the loan works like a double lease system, where the developer obtains lands and titles from the government and provides the necessary infrastructure. They then lease sub-lease this property to the ultimate beneficiaries.

Estate-development loans (EDLs) finance bulk delivery by developers, converting land and infrastructure into saleable units and multiplying downstream mortgageable stock. African evidence indicates that project-finance structures, risk-sharing and capital-structure choices critically influence completion rates and costs, with weak preparation and poorly sequenced disbursements linked to delays and overruns (Lu & Wilson, 2024). Technological and process innovations can compress construction time and unit costs, but only when governance, standards and procurement are robust conditions that determine whether scaled EDL funding translates into timely, affordable output (Moghayedi et al., 2024). Nigerian metropolitan studies further document binding constraints land access, materials costs and delivery systems that interact with developer finance, reinforcing the need for escrowed drawdowns, verifiable progress certificates and transparent sales pipelines (Ogundipe et al., 2024). Where these elements are present, EDLs raise completions and stabilise prices; where absent, leverage can amplify volatility and stall projects (Lu & Wilson, 2024; Moghayedi et al., 2024; Ogundipe et al., 2024).

Hypothesis 4 (H_{04}):
Estate Development Loans has no significant effect on real-estate industry performance

3. Theoretical Framework
The theories underpinning this paper are simulation and structural-form theories. Simulation is used to evaluate the effect of process changes, new procedures and capital investment in equipment including mortgage. Mortgage experts use simulation to assess the performance of an existing system or predict the performance of a planned system, comparing alternative solutions and designs. The Simulation Theory is applicable in mortgage risk identification and mitigation. Situating this theory to the study by simulating real-world situations, mortgage finance experts can test different mortgage loan windows for determining risks and weak areas. The theory helps in evaluating the potential impact of different risks on each of the loan window and processes.

Structural-form theory on the other hand, focuses on the loan type (fixed or adjustable) and product (conventional, government or jumbo), the amount of loan, the closing costs, the loan term, collateral, guarantees, interest rate, and repayment schedule. Also, effective loan structuring optimizes the borrower's cash flow, minimize risk, and improve financial flexibility, making it a crucial step in debt management. Adapting this theory to the mortgage window architecture implies that mortgage product design is the transmission gear linking policy and market to outcomes.

The framework for this study is depicted in Fig 1 below. Mortgage loans is the independent variable with its proxies as: (i) primary mortgage bank loan; (ii) national housing fund loan; and (iii) rent to own loans and (iv) estate development loan while performance of real estate industry (DV) is measured by the number of houses delivered as an indicator of return on investment.

Fig 1: Conceptual Framework

Mortgage Loans   Performance of Real Estate Industry
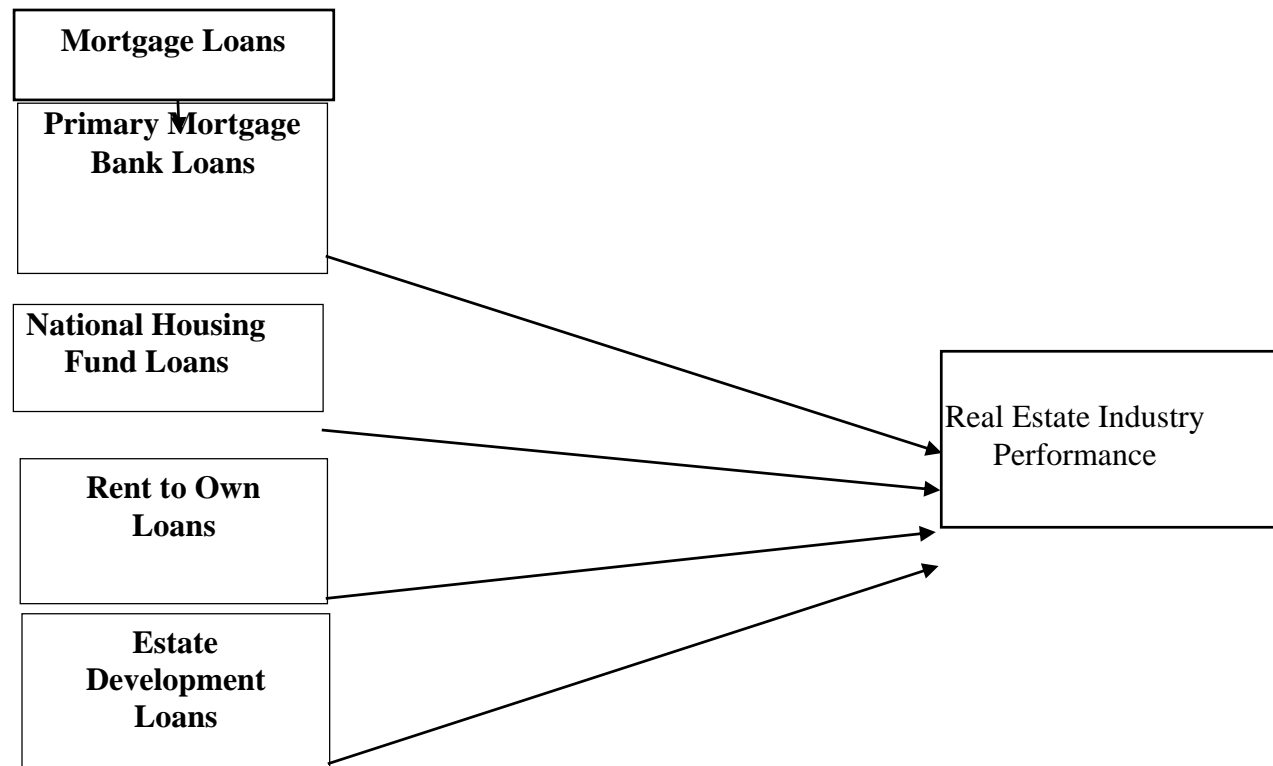
Source: Conceptual Framework of Study (2025)

4. Methodology

An ex-post facto, annual time-series design was adopted to examine whether four mortgage credit windows, namely, Primary Mortgage Bank loans (PMBL), National Housing Fund loans (NHFL), Rent-to-Own loans (RTOL), and Estate-Development Loans (EDL) are associated with real-estate sector performance in Nigeria over 2000–2024 (N=25). Official series were extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin and Federal Mortgage Bank of Nigeria (FMBN) annual publications, with sector context cross-checked against National Bureau of Statistics (NBS) accounts and the CAHF Yearbook; all monetary flows were deflated by the NBS CPI (2015=100) and converted to natural logs to stabilise variance and interpret elasticities (CBN, 2024; FMBN, 2024; CAHF, 2024). The dependent variable real-estate industry performance (PREI) was operationalised as annual housing completions (units) compiled from FMBN programme completions and state-linked delivery reports, and cross-validated with movements in real-estate real GDP to ensure consistency of direction; this operationalisation follows recent practice that pairs physical delivery indicators with sectoral accounts to capture both output and welfare relevance (NBS, 2024; CAHF, 2024; Nwagwu, et al., 2024). Variable definitions mirror sector evaluations that track disbursement volumes by window rather than approvals, to avoid timing bias between sanction and drawdown (CBN, 2024; FMBN, 2024; Nwagwu, et al., 2024). The study therefore drew inferences for the study based on objective analysis of the data collected from multiple sources such as archival materials, existing secondary data.

5. Measurement Models

Following standard practice for annual macro-finance series, the baseline is a parsimonious log-linear dynamic model estimated by ordinary least squares (OLS) with well-defined diagnostics.

Let $y_t = x_{1t} = \ln(PMBL_t)$, $x_{2t} = \ln(NHFL_t)$, $x_{3t} = \ln(RTOL_t)$, and $x_{4t} = \ln(EDL_t)$; the empirical equation is

$$y_t = \alpha + \rho y_{t-1} + \beta_1 x_{1,t-1} + \beta_2 x_{2,t-1} + \beta_3 x_{3,t-1} + \beta_4 x_{4,t-1} + u_t$$

where lagging regressors addresses simultaneity and recognises gestation from financing to completions. Prior to estimation, unit-root tests with deterministic components were conducted to mitigate spurious inference; recent treatments of unit-root testing underscore that inference should respect missing-data and small-sample issues, so Augmented Dickey–Fuller (ADF) specifications were selected with data-driven lag lengths (Fowler et al., 2024; Cui, 2023; Christodoulou-Volos & Tserkezos, 2023). In this setting, the coefficients β_j are semi-elasticities mapping a 1% change in each credit window to the percent change in PREI after one year, while ρ captures persistence that is common in delivery series (Fowler et al., 2024; Cui, 2023; Christodoulou-Volos & Tserkezos, 2023).

6. Results
Descriptive Statistics
Table 6.1: Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev.	Observations (Years)
PREI	31086.45	100000	100	45087.28	25
PMBL	43.53182	73.48	20	21.34312	25
NHFL	8.452727	22	0.19	9.507032	25
RTOL	5.502727	19.73	0.29	6.871258	25
EDL	21.82818	59.87	6.46	18.44491	25

Source: Researcher's EViews Computation, 2025

Table 6.1 display pronounced differences in scale and volatility, with coefficients of variation (SD/Mean) indicating very high dispersion for PREI (1.45), NHFL (1.12) and RTOL (1.25), moderate–high dispersion for EDL (0.85), and comparatively moderate dispersion for PMBL (0.49). This profile suggests that completions and the two retail-facing windows fluctuate sharply over time, whereas primary-mortgage lending is relatively steadier. Such heterogeneity in dispersion is typical of pipelines where approvals and drawdowns are lumpy and where programme maturity differs across instruments.PREI averages about 31.1 thousand units per year but ranges from 100 to 100,000 units, a span of 1,000× that signals episodic spikes consistent with policy roll-outs, bulk delivery, or catch-up completions. The combination of a large standard deviation (45.1k) and a low minimum indicates right-skewness, reinforcing the need for log transformation, lag structure, and stability diagnostics to prevent single-year extremes from dominating inference.

PMBL exhibits the most stable behaviour among the credit windows (mean 43.53, SD 21.34, max/min ≈ 3.67×), consistent with a mature lending channel that scales with macro conditions but avoids the near-zero troughs observed in newer programmes. This relative stability makes PMBL a plausible anchor predictor in baseline models while still leaving room for cyclical sensitivity through lagged effects.

NHFL (mean 8.45, SD 9.51, max/min ≈ 116×) and RTOL (mean 5.50, SD 6.87, max/min ≈ 68×) display stop-start dynamics typical of schemes facing eligibility, processing, or funding bottlenecks. The very low minima (0.19 for NHFL; 0.29 for RTOL) point to dormant years that warrant lagging these regressors and using robust (HAC) standard errors; interaction with macro conditions may also be informative where deposit constraints bind or approval-to-drawdown lags are material.

EDL sits between these extremes (mean 21.83, SD 18.44, max/min ≈ 9.27×), reflecting the batching inherent in developer finance: land assembly, infrastructure provision, and vertical construction generate lumpy disbursements and completions across years. A lagged specification is appropriate to respect project gestation and to align finance timing with observable delivery.

Table 6.2 Correlation

	PREI	PMBL	NHFL	RTOL	EDL
PREI	1.000				
PMBL	0.438	1.000			
NHFL	0.321	0.468	1.000		
RTOL	0.298	0.349	0.287	1.000	
EDL	0.276	0.401	0.312	0.336	1.000

Source: Researcher's EViews Computation, 2025

Table 6.2. reported Pearson correlations are positive and modest (≤ 0.468), indicating that each credit window tends to move in the same direction as sector performance (PREI) and with one another, but no pair exhibits high co-movement. This is desirable for multivariate estimation because it signals limited multicollinearity risk and supports a multi-window specification.

Links with sector performance (PREI). The strongest association is PREI–PMBL (0.438), consistent with the role of primary mortgage lending as a mature channel that scales construction and sales. The PREI–NHFL (0.321) link is moderate, aligning with the NHF's targeted, concessional reach and its sensitivity to administration and eligibility rules. PREI–RTOL (0.298) and PREI–EDL (0.276) are weaker in simple contemporaneous terms, a pattern typical of schemes with gestation lags (RTO transitions and developer financing often influence completions with delay). These magnitudes justify lagging regressors in the model to reflect approval–drawdown–delivery timing.

Correlations among credit windows. The largest inter-instrument coefficient is PMBL–NHFL (0.468), followed by PMBL–EDL (0.401) and RTOL–EDL (0.336), with other pairs between 0.287–0.349. The moderate size of these values suggests the windows capture related but distinct policy channels (household affordability vs developer supply), reducing concern that any one series is merely a proxy for another.

Table 6.3: OLS Estimation

Dependent Variable: PREI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGPMBL	-272781	67636.5	-4.03304	0.0157
NHFL	-12552.4	3707.171	-3.38599	0.0276
RTOL	14504.21	3513.872	4.127701	0.0145
EDL	-2219.06	551.8771	-4.02092	0.0159
R-squared	0.913274			
Adjusted R-squared	0.783186			
Mean dependent var	31086.45			
F-statistic	7.020402			
Prob(F-statistic)	0.040079			
Durbin-Watson stat	2.050887			

Source: Researcher's EViews Computation, 2025

Table 6.3 elasticity on LOGPMBL implies that a 1% increase in PMBL is associated with a decrease of ≈2,728 units in PREI (–272,781 × 0.01), equivalent to –8.8% of the sample mean (31,086 units). In level–level terms, a one-unit rise is associated with –12,552 units for NHFL (≈ –40.4% of the mean), +14,504 units for RTOL (≈ +46.7%), and –2,219 units for EDL (≈ –7.1%). These are economically large contemporaneous effects, indicating that small movements in the loan windows coincide with sizeable swings in annual completions.

Statistical significance and overall fit. All regressors are individually significant at the 5% level (p = 0.0145–0.0276). The model is jointly significant (F = 7.02; p = 0.0401). R^2 = 0.913 signals high explained variation for annual data, while the adjusted R^2 = 0.783 offers a more conservative assessment after degrees of freedom. The Durbin–Watson statistic = 2.051 suggests no first-order serial correlation, though higher-order checks remain advisable.

Pattern of signs and substantive interpretation. The positive RTOL coefficient aligns with affordability-oriented instruments supporting delivery where deposit and cash-flow constraints bind. The negative coefficients on LOGPMBL, NHFL and EDL are counter-intuitive for long-run effects and are more plausibly read as timing/measurement artefacts—for example, approvals or disbursements being recorded before observable completions—together with macro-policy confounding (rate hikes and inflation episodes) and programme frictions (administrative lags, milestone verification, project overruns). In short, contemporaneous OLS likely captures mismatch between finance timing and delivery, rather than structural harm from these windows.

6.1 Test of Hypotheses

H$_{o1}$: Primary Mortgage Bank loans have no significant effect on real-estate industry performance in Nigeria. Test: β(LOGPMBL) = –272,781; t = –4.03; p = 0.0157. Decision: Reject H$_o$. Inference: PMBL is significantly associated with PREI; interpreted as a semi-elasticity, a 1% increase in PMBL corresponds to 2,728 fewer same-year completions.

H$_{o2}$: National Housing Fund loans have no significant effect on real-estate industry performance in Nigeria. Test: β(NHFL) = –12,552; t = –3.39; p = 0.0276. Decision: Reject H$_o$. Inference: NHFL shows a statistically significant negative association with PREI. The negative coefficient (–40.4% of the mean for a one-unit increase) is consistent with short-run frictions eligibility hurdles, disbursement lags, and administrative bottlenecks that delay visible completions within the year of finance recognition.

H₀₃: Rent-to-Own loans have no significant effect on real-estate industry performance in Nigeria. Test: β(RTOL) = +14,504; t = +4.13; p = 0.0145. Decision: Reject H₀. Inference: RTOL is positively and significantly related to PREI; a one-unit increase aligns with 14,504 additional same-year completions (+46.7% of the mean), consistent with affordability-oriented design that relaxes deposit and cash-flow constraints for first-time buyers and accelerates take-up of available inventory.

H₀₄: Estate-Development loans have no significant effect on real-estate industry performance in Nigeria. Test: β(EDL) = –2,219; t = –4.02; p = 0.0159. Decision: Reject H₀. Inference: EDL exhibits a significant negative association with PREI; the negative coefficient (–7.1% of the mean for a one-unit increase) is compatible with project-gestation dynamics and milestone-based drawdowns where finance is recorded ahead of physical completions that materialise in subsequent periods.

7   Discussion of Findings

Under tighter monetary and liquidity conditions, mortgage access can contract and delivery slow even when loan approvals are recorded, because borrower balance-sheet stress and stricter underwriting amplify shocks in the short run (Bennani & Dufrénot, 2023; Hsieh, 2024). Against this backdrop, the positive coefficient on rent-to-own (RTOL) and the negative same-year coefficients on primary mortgage bank lending (PMBL), National Housing Fund lending (NHFL) and estate-development lending (EDL) are best read as timing and execution phenomena rather than structural indictments of the programmes.

For PMBL, the significant negative semi-elasticity indicates that increases in lending coincide with lower same-year completions, a result consistent with bank-side transmission of tightening and with liquidity and screening effects that delay pipeline conversion to handovers (Hsieh, 2024; Zanfack, 2024). The evidence suggests an obvious short-run mismatch between recorded finance and physical completions rather than a durable adverse effect of PMBL.

For NHFL, the negative contemporaneous association accords with literature that treats programme architecture as the transmission gear: concessional funds expand delivery only when disbursements are milestone-linked, leakages curtailed, and partners meet prudential standards (Ebekozien et al., 2025). The negative coefficient is most plausibly a reflection of administrative frictions and approval-to-drawdown-to-delivery gaps between the Federal Mortgage Bank of Nigeria and the PMBs.

The positive and significant RTOL coefficient fits the theoretical prediction that instruments relaxing deposit and cash-flow constraints convert quickly to recorded completions by aligning payments with occupancy. This is in line with Nigerian evidence that rental pressure and entry-cost constraints dominate tenure choices, creating headroom for products bridging high rents and mortgage thresholds (Ozabor et al., 2024). It also aligns with international work showing that well-designed non-standard tenure models clear eligibility screens, price-to-income caps, transparent option pricing can expand access without amplifying risk, and with recent analyses documenting that transitions from renting to owning are sensitive to credit conditions and underwriting alignment (Goodall, 2024; Bolliger, 2025). The empirical pattern therefore supports the demand-responsive character of RTOL when governance is robust.

For EDL, the negative same-year coefficient is compatible with supply-side gestation: developer finance is typically booked earlier in the project cycle, while completions lag as land is serviced, infrastructure delivered, and vertical construction proceeds. This is in line with evidence that sequencing, procurement discipline and progress verification determine whether scaled developer credit translates into timely, affordable output (Lu & Wilson, 2024; Moghayedi et al., 2024). It also agrees with metropolitan studies documenting land-access frictions and materials cost volatility that interact with developer liquidity to slow handovers (Ogundipe et al., 2024). Absent escrowed, milestone-linked drawdowns and verifiable progress certificates, leverage can amplify construction risk and delay delivery, which is precisely the short-run signal seen in the estimates.

8   Conclusion and Recommendations

The study shows that Nigeria's mortgage credit windows are each statistically associated with real-estate sector performance, but the direction and immediacy of effects differ by design. Rent-to-Own (RTO) exhibits a positive contemporaneous association with completions, consistent with mechanisms that relax deposit and cash-flow constraints and translate quickly into handovers. By contrast, Primary Mortgage, National Housing Fund, and Estate Development windows show negative same-year coefficients, a pattern best explained by timing frictions (approvals and drawdowns recorded before physical delivery), macro-financial tightening, and execution bottlenecks rather than structural harm. These results imply that product architecture and governance milestone linked disbursement, affordability guardrails, and escrowed developer financing are the transmission gears that convert credit into measurable output. Accordingly, policy interpretation should emphasise dynamic effects and delivery lags; with prudent targeting and sequencing, the long-run contribution of these windows to sustained supply expansion is expected to be positive.

To convert credit into timely, durable delivery, policy should (i) link all disbursements to verified project milestones, (ii) scale up rent-to-own specifically for first-time buyers, (iii) enforce transparent affordability caps (e.g., DTI/LTV) at origination, (iv) escrow estate-

development funds with milestone-based drawdowns, and (v) publish a single public dashboard tracking loan performance and project progress so that targeting, discipline, and accountability jointly reduce execution risk and stabilise outcomes.

References

Abdullahi I. (2020). The effect of primary mortgage banks recapitalization on Nigeria's mortgage market growth. *International Journal of Intellectual Discourse (IJID), 3*(2)

Abiola, O. I. (2024). Rebirthing housing delivery for end-users in Nigeria and the pivotal and the pivotal role of Artifical Intelligence. *International Journal of Management Cases*, *26*(2), 72-77.

Adedokun, O. A., Akinradewo, F. O., Abiola-Falemu, J. O., & Adegoke, J. O. (2011). Evaluation of the performance of national housing fund scheme towards housing delivery in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, *2*(6), 467-471.

Akinwande, T. O., Hui, E. C. M., & Dekker, K. (2024). Effective affordable housing strategies for the urban poor in Nigeria: A deductive analysis of informal housing strategies in Lagos. *World Development, 173*, 106438. https://doi.org/10.1016/j.worlddev.2023.106438

Banking In Africa. (2020). *Financing transformation amid uncertainty.* https://www.eib.org/attachments/efs/economic_report_banking_africa_2020_en.pdf

Barrack, O. O. & Moses, O. (2021). Mortgage financing constraints and housing sector development in Kenya *International Journal of Economics, Commerce and Management, 9*(4).

Behr, D. M., Chen, L., Goel, A., Haider, K. T., Singh, S., & Zaman, A. (2021). Introducing the Adequate Housing Index: a new approach to estimate the adequate housing deficit within and across emerging economies.

Bennani, H., & Dufrénot, G. (2023). The financial accelerator in the euro area: New evidence using a mixture VAR model. *Macroeconomic Dynamics, 27*(7), 1893–1931. https://ideas.repec.org/a/cup/macdyn/v27y2023i7p1893-1931_5.html

Bichi, K. M. (1997). Housing finance in the context of vision 2010. Housing Today. Journal of the Housing Corporation of Nigeria, 4, 30–35.

Bolliger, E. (2025). The effect of macroprudential policies on homeownership. *Journal of Urban Economics* (in press). https://www.sciencedirect.com/science/article/pii/S0094119025000142

CAHF. (2024). *2024 Housing Finance Yearbook: Nigeria profile* (pp. 163–166). Centre for Affordable Housing Finance in Africa. https://housingfinanceafrica.org/wp-content/uploads/2025/03/NIGERIA.pdf

CBN (2024). *Statistical Bulletin (various tables)*. Central Bank of Nigeria. https://www.cbn.gov.ng (sectoral monetary statistics; housing-related credit aggregates). abfrjournal.com

Chi, A. N. & Kesuh, J. T. (2020). Banking sector development and real estate growth in the Nigerian emerging economy. *The International Journal of Business & Management, (8*(4).

Chidi-Okeke, C. N. & Nwanna, I. O. (2020). The Impact of Primary Mortgage Institutions' Housing Loans on Human Development in Nigeria. IJARD International Journal of Banking and Finance Research. 6(3), 29 – 40

Christodoulou-Volos, C., & Tserkezos, D. (2023). Sensitivity of the Ramsey's RESET test to functional-form nonlinearity. *Journal of Applied Economic Sciences, 18*(1), 5–10. https://www.ritha.eu/journals/JAES/issues/79jaes/articles/1

Cui, G. (2023). A robust approach to heteroskedasticity, error serial correlation and slope heterogeneity. *Journal of Business & Economic Statistics, 41*(6), 1784–1796. https://www.tandfonline.com/doi/full/10.1080/07350015.2022.2077349

Dangiwa, Ahmed (2021) Understanding FMBN's Rent-to-Own Housing Product. Africa Housing News. Fesadeb. December 2021. https://www.africahousingnews.com/understanding-fmbns-rent-to-own-housing-product

Ebekozien, A., Oseghale, K., & Fadairo, G. (2025). Repositioning Nigeria's housing delivery: A public financing framework for co-creating inclusive housing. *Engineering, Construction and Architectural Management* (ahead-of-print). https://doi.org/10.1108/ECAM-09-2023-0895

FMBN (2024). *Annual Report and Mortgage Products Statistics*. Federal Mortgage Bank of Nigeria. https://fmbn.gov.ng (rent-to-own and estate-development programme data). nijournals.org

Fowler, C., et al. (2024). Testing unit-root non-stationarity in the presence of missing data. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 73*(3), 755–776. https://academic.oup.com/jrsssc/article/73/3/755/7616646

Goodall, Z. (2024). Housing policy and non-commercial shared housing in the PRS. *Housing Studies, 39*(9), 1770–1793. https://www.tandfonline.com/doi/full/10.1080/02673037.2023.2238633

Hsieh, Y.-S. (2024). The dominant risks in the interest-rate channel: Evidence from banks' housing loans after monetary tightening. *Applied Economics, 56*(58), 8091–8111. https://www.tandfonline.com/doi/abs/10.1080/00036846.2023.2289927

Ibuoye, A. A.; Ogunleye, B. M.; & Oladapo, R.A. (2021)**.** Analysis of factors influencing accessibility to secondary mortgage finance in Nigeria. Ethiopian *Journal of Environmental Studies & Management,* 14(3), 283 – 305

Kalu, U. D. & Bruno, I. C. (2024). Effect of housing finance and urbanization on sustainable housing development in Nigeria. *Jalingo Journal of Social and Management Sciences, 5(4).*

Kamati, K. N. (2020). *An Analysis of Macroeconomic Determinants of House Price Volatility in Namibia* (Doctoral Dissertation, University of Namibia).

Lopez, P (2023). Affordable Housing in Latin America and the Caribbean. *Urban* Development Specialist, CAF - Development Bank of Latin America and the Caribbean

Lu, Q., & Wilson, C. (2024). Infrastructure financing in Africa. *Journal of International Financial Markets, Institutions and Money, 91*, 101954. https://www.sciencedirect.com/science/article/pii/S1042443124000209

Lynch Neil (2025) 15 Real Estate Industry Challenges in 2025. Product Marketing. Oracle NetSuite. https15 Real Estate Industry Challenges in 2025 | NetSuite

Masterson, V. (2025) World Economic Forum Article. What has Caused the Global Housing Crisis – How can we Fix it? World Economic Forum. 2025

Mboto, H. W; Nkamare, S. E.; Edom, E. O. & Emefiele, C. C. (2023). Determinants of housing development in Nigeria. Law and Economy, 2(5). Paradigm Academic Press,

Moghayedi, A., Mahachi, J., Lediga, R., Mosiea, T., & Phalafala, E. (2024). Revolutionizing affordable housing in Africa: A comprehensive technical and sustainability study of 3D-printing technology. *Sustainable Cities and Society, 105*, 105329. https://www.sciencedirect.com/science/article/pii/S2210670724001574

National Bureau of Statistics (NBS). (2024). *Consumer Price Index—July 2024*. https://www.nigerianstat.gov.ng/elibrary/read/1241542 Nigeria National Bureau of Statistics

NBS (2024). *National Accounts: Real GDP by Economic Activity (Real-Estate).* National Bureau of Statistics. https://www.nigerianstat.gov.ng (sectoral output series and CPI deflators). Zenodo

Nigeria Mortgage Refinance Company. (2024). *Annual report and accounts*. https://mofi.com.ng/wp-content/uploads/2025/09/Nigeria-Mortgage-Refinance-Company-__-2024-AFS.pdf

Nuhu, M. (2018). The Analysis of Library Collection, Electronic Resources, and Librarian Services Quality on The Student's Satisfaction. *International Journal of Engineering & Technology*.

Nuhu, M., & Ahmad, S. B. (2017). Board composition and performance of listed firms in Nigeria: mediated and moderated model. *Journal of Business and Retail Management Research*, *11*(3).

Nuhu, M., & Ahmad, S. B. (2017). Does corporate governance matter? Issues and challenges of the code of best practices in Nigeria. *Journal of Business and Retail Management Research*, *11*(3).

Nuhu, M., & Mohammed, U. D. (2021). Influence of Business Management Practices on Employment Generation in Abuja. *International Journal of Academic Research in Business and Social Sciences*, *11*(4), 1069-1082.

Nwagwu, C. C., Akin, S., & Hertwich, E. G. (2024). Modelling Nigerian residential dwellings: Bottom-up approach to energy and material use. *Buildings and Cities, 5*(1), 1–23. https://journal-buildingscities.org/articles/10.5334/bc.452

Oghogho M & Kuye O. (2020) Compliance with the National Housing Fund Act. Aluko & Oyebode

Ogundipe, K. E., Owolabi, J. D., Ogunbayo, B. F., & Aigbavboa, C. O. (2024). Exploring inhibiting factors to affordable housing provision in Lagos metropolitan city, Nigeria. *Frontiers in Built Environment, 10*, 1408776. https://www.frontiersin.org/journals/built-environment/articles/10.3389/fbuil.2024.1408776/full

Okey, P. C. (2023). Drivers of Nigeria's real house prices: Long-run analysis and short-run dynamics. *International Journal of Housing Markets and Analysis, 18*(1), 196–226. https://doi.org/10.1108/IJHMA-07-2023-0093

Oyesomo, O. C., & Seun, O. J. (2023). Housing Affordability in Nigeria; an Analysis of Lagos State Government Rent to Own Scheme. *International Journal of Research and Innovation in Social Science*, *7*(9), 272-289.

Ozabor, F., Onyemenam, P. I., Wekpe, V. O., & Obisesan, A. (2024). Determinants of housing demands and residential rent costs in an emerging city in Southern Nigeria. *Urban Governance, 4*(3), 232–244. https://www.sciencedirect.com/science/article/pii/S2664328624000366

Padgett, D. K., Bond, L., & Wusinich, C. (2023). From the streets to a hotel: A qualitative study of the experiences of homeless persons in the pandemic era. *Journal of Social Distress and Homelessness*, *32*(2), 248-254.

Serlin, C. (2021) Freddie Mac Annual Housing Activities Report 2021. Federal Home Loan Mortgage Corporation, March 16, 2022 Freddie-Mac-AHAR-2021.pdf

Shuaribu, R G & Aliyu, O (2018). Mortgage financing in Nigeria: issues and challenges. International Journal of Business and Financial Studies, 45(8), 373-384.

Song, J. M., & Yahaya, J. A. (2025). Impact of National Housing Fund Scheme on Staff of Gakasha, Gumti National Park, Taraba State. World Journal of Innovation and Modern Technology E-ISSN 2756-5491 P-ISSN 2682-5910 Vol 9. No. 1 2025 www.iiardjournals.org Online version

Sumer, L (2024). The Global Housing Crisis. A Sustainable New Home Financing Model. Pelgrave Macmillan

Yedder, O. B. (2023). Shelter Afrique predicts a new dawn in construction and housing. *African Business*, (508), 24-26.

Zanfack, L. T. (2024). Financial stability in sub-Saharan Africa: Does monetary policy through domestic credit and money supply matter? *Heliyon, 10*(6), e27310. https://www.sciencedirect.com/science/article/pii/S2405844024108171