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Effect of Mortgage Institutions on Performance of Real Estate Industry in Nigeria

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Abstract

The study examined the effect of mortgage institutions on performance of real estate industry in Nigeria. The research utilised quantitative method on the ex–post-facto research design. Times series secondary data was sourced from the Central Bank of Nigeria Statistical Bulletin covering a period of 1995 to 2023. In addition, Econometric Views (E-Views) was the statistical software used in presenting the data. The data so collected were analysed by descriptive statistics, correlation analysis and unit root test. Similarly, Autoregressive distributed lag was used to analysis the model. Mortgage institutions was the independent variable with its proxies as: primary mortgage institutions deposit; primary mortgage institutions loan; and primary mortgage institutions investment. The proxy for the dependent variable (performance of real estate industry) is gross domestic product of real estate industry. The findings revealed that mortgage institutions deposits and mortgage institutions loans had statistically significant effect on the real estate sector's GDP, Mortgage institutions investments were found to have no significant effect on real estate GDP. The study recommends that mortgage institutions deposits, the Central Bank of Nigeria (CBN), in collaboration with the Mortgage Banking Association of Nigeria (MBAN), should establish guidelines that link deposit, loans and investments mobilization to mandatory housing development lending quotas. This would ensure that mortgage institutions are more effectively channelled into real estate activities that directly impact sectoral GDP.

Keywords: Deposit, investment, loan, mortgage institutions, performance, real estate industry.

1. Introduction

Mortgage lending globally, is the primary tool for encouraging the advancement of the real estate market; which is currently expanding as a result of state assistance in the manner of preferential mortgage loans for households. As the population grows, so does the need for affordable housing as one of the basic physiological needs of man as categorized by Maslow (Mungai, 2022). The need for decent and affordable housing is, therefore, important for people and this affects their daily lives. This important factor is underscored in that, globally, decent and affordable housing is one of the goals under the seventeen sustainable development goals (SDGs). Sustainable Development Goal (SDG) number 11 relates to sustainable cities and communities. The construction of houses is a capital-intensive venture. Many people do not have the resources through which they can construct houses without taking a loan or mortgage facility. This, therefore, necessitates the need for the acquisition of mortgage facilities (UNDP, 2020).

In the United States, mortgage market has rates somewhat similar to Europe; although the overall non-performing mortgages are higher in the USA than in Europe. Financing of mortgages is more dependent on the secondary mortgage markets than the infamous ceremonial government guarantees backed by covered bonds and deposits. Large mortgage players have underwriting

conditions that tend to discourage certain elements as redemption penalties. In the USA, mortgages are considered non-recourse facilities contrary to the rest of the world (Okelo, et. al. 2024). In Sweden, home prices climbed every year due to the economy's interest rate levels. Likewise, mortgage debt has skyrocketed. The reduced interest atmosphere is mainly attributable to the goal of raising inflation to 2% every year (Mungai, 2022). Similarly, demand, earnings, property prices, and rate of interest all influence mortgage lending in China (or money supply) (Guren, et. al., 2021). However, the impact of interest rate changes is far more pronounced in first-tier cities like Shanghai and Beijing.

South Africa has to some extent starting to address the limits in its lending and house prices. Many other African economies, meantime, are striving to modify their residential assistance schemes. In West Africa, for instance, the Regional Mortgage Refinancing Fund's actions in the region have enabled refinanced banking institutions to award more mortgages at lower interest prices and with long-term bonds/maturities. Since 2012, this regional organization has raised a total of 162.3 billion CFA francs, or about USD 300 million, via eight (8) issuances in the sub-regional financial sector with maturity periods spanning between 10 and 15 years (Banking in Africa, 2020). Tanzania's financial industry has seen considerable growth, notably since the 2000s, resulting in financial developments, especially in banking technologies and mortgages. Nevertheless, in areas where the move to price-based monetary policy instruments is popular, there is a shortage of understanding of how fiscal and monetary policy operations affect, among other things, the rate of interest, currency rate, and, eventually, prices (inflation) (Mwankemwa & Ndanshau, 2021).

In Nigeria, the mortgage market can be conceptualized in the context of the mortgage debt relative to the economic activity of a nation, the mortgage loan features and the ability of the lenders to create mortgage loans (Abdullahi, 2020). Home ownership levels through the use of mortgage facilities are a major indicator of mortgage market growth in any country. The financial institutions charged with the responsibility of mortgage loan origination are primary mortgage banks (PMBs). The contributions of PMBs to the growth and development of the economy is a significant one in view of the fact that housing development constitute a major part of economic growth mobilizing long-term financial resources for mortgage lending, and the disbursement of the National Housing Funds (NHF) for the purchase and construction of houses (Abdullahi, 2020).

With respect to the ever-rising importance of housing and its capital-intensive nature, programmes of assistance in the areas of finance and provision of infrastructure were designed by governments to enhance mortgage lending including the establishment of the Nigerian Building Society (NBS) in 1956 that was later converted to Federal Mortgage Bank of Nigeria (FMBN) in 1977 and the setting up of Primary Mortgage Banks (PMBs) in 1989 that were hitherto known as Primary Mortgage Institutions (PMIs). Following the increased pressure for

housing delivery, the National Housing Fund (NHF) which is to date managed by the Federal Mortgage Bank of Nigeria (FMBN) was set up in 1992 to provide effective and affordable housing finance to low-income earners. In 2013, the Nigeria Mortgage Refinance Company (NMRC) was also established to promote the availability and affordability of housing to Nigerians by providing liquidity in the mortgage market through financial institutions (Abdullahi, 2020). In spite of these numerous efforts, Nigeria with an estimated population of over 200 million which is equivalent to 2.6% of the world's population according to World Meters (2020) has a housing shortfall put between 16 million to 17 million units. The effectiveness of most mortgage finance policies in Nigeria lies heavily on PMBs in view of the vital roles they play providing mortgage lending facilities in the economy. In the course of their operations, the PMBs just like other financial institutions are affected by credit and operational losses. Such situations threaten and negatively affect shareholder funds, capital adequacy, and performance in turn threaten both customer funds and mortgage lending activities of banks due to shortage of funds at their disposal leading to bank failure and crises.

Also, a lot of studies have been conducted to ascertain the direction of association between primary mortgage institutions' services and performance of real estate industry in Nigeria. In general, the nexus between primary mortgage institutions' services and performance of real estate industry in Nigeria remains unsettled and deserve further investigation. In the study, some of the studies argued that primary mortgage institutions' services have significant effect on performance of real estate industry: Kamau and Mulyungi (2023); Iwundu (2022); Muhammad, et, al. (2021). Contrary to the above, some studies argued that primary mortgage institutions' services have no significant effect on performance of real estate industry. These include: Abdullahi, et. al. (2022); Chidi-Okeke and Nwanna (2020); Chi and Kesuh (2020).

Previous literature reviewed revealed mixed findings; which shows inconsistency in findings of previous studies. Therefore, it is clear that the actual effect of mortgage loans and performance of real estate industry in Nigeria is far from being established; and desired to be investigated further. Therefore, the study examined the effect of mortgage loans on performance of real estate industry in Nigeria from 1995 - 2023.

2. Literature Review

2.1 Conceptual Review

2.1.1 Primary Mortgage Institutions

Primary Mortgage Institutions (PMIs) also known as Primary Mortgage Banks (PMBs)were established with the enactment of Decree No. 53 of 1989 to mobilize savings for the development of the housing sector. Federal Mortgage Bank of Nigeria (apex mortgage bank) under the mortgage institution decree No. 53 of 1989 has the authority and function of monitoring, controlling and regulating the activities of all PMBs throughout the country (CBN, 2007).

2.1.2 Primary Mortgage Institutions Deposits

The primary mortgage market is where home loans originate before they're sold to investors in the secondary mortgage market (Udeji & Efiong (2018). However, a mortgage deposit is the cash deposit that you pay upfront when buying a house. The larger a deposit you put down, the more of your property you will own and smaller mortgage you will need to get to pay the rest of the house's value. with a mortgage deposit, one pays for a chunk of a house upfront (Oyelowu & Dumson, 2018). The deposit remitted to a mortgage bank in connection of buying a house in the future is mortgage deposit (Agbada & Ekakitie – Emonena, 2016).

2.1.3 Primary Mortgage Institutions Loans

A mortgage loan or simply mortgage, is a loan used either by purchasers of real property to raise funds to buy real estate, or by existing property owners to raise funds for any purpose while putting a lien on the property being mortgaged (Gabriel, et. al., 2018). A mortgage is a type of loan used to purchase or maintain a home, plot of land, or other type of real estate. The borrower agrees to pay the lender over time, typically in a series of regular payments that are divided into principal and interest (Shuaribu & Aliyu, 2018). The property then serves as collateral to secure the loan.

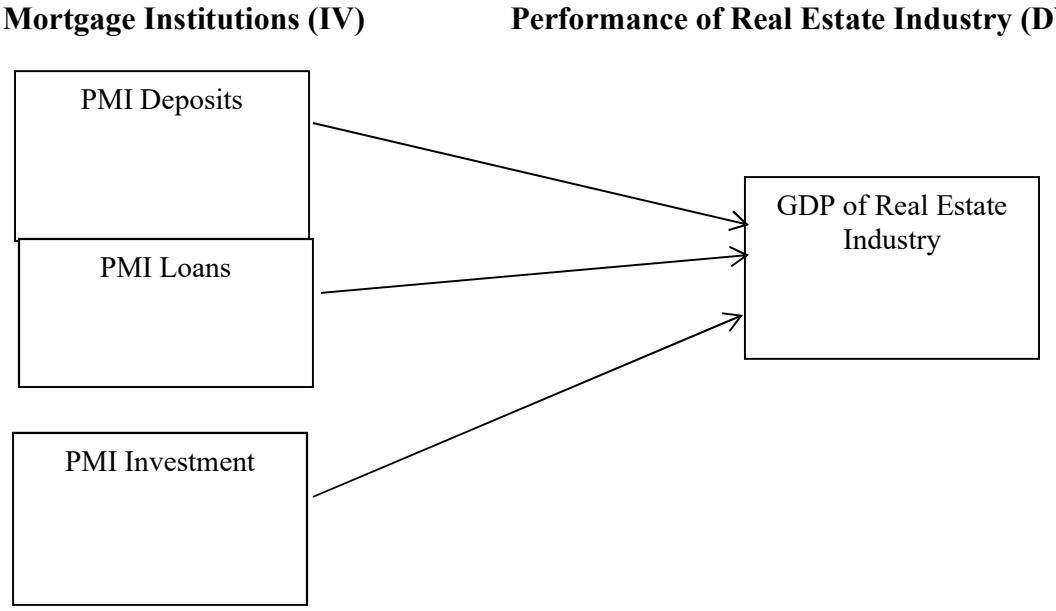
2.1. 4 Primary Mortgage Institutions Investment

Mortgage investments are a type of managed funds where investors' funds are lent to a borrower in the form of a mortgage (Agbada & Ekakitie – Emonena, 2016). The borrower pays interest which is passed on to the investor. Mortgage investment are funds that focused on mortgaged-backed securities. Different investors pool their money together which is then lent out to borrowers who are looking to purchase residential or commercial properties (Oyelowu & Dumson, 2018).

2.2 Conceptual Framework

The framework for this study is depicted in Fig 1. Mortgage institutions is the independent variable with its proxies as: (i) primary mortgage institutions deposit; (ii) primary mortgage institutions loan; and (iii) primary mortgage institutions investment. The proxy for the dependent variable (performance of real estate industry) is gross domestic product of real estate industry in Nigeria. It is expected that the proxies of mortgage institutions loans as seen in Fig. 1 below will no doubt stimulate performance of real estate industry in Nigeria.

Fig 1: Conceptual Framework



Source: Author's Compilation (2025)

2.3 Theoretical Review

2.3.1 Simulation Theory

The theory was developed by Laibson (1998); it examines the extent to which markets enable the provision of housing finance across a wide range of countries. Housing is a major purchase requiring long-term financing, and the factors that are associated with well-functioning housing finance systems are those that enable the provision of long-term finance. The theory further states that countries with stronger legal rights for borrowers and lenders (through collateral and bankruptcy laws), deeper credit information systems, and a more stable macroeconomic environment have deeper housing finance systems. These same factors also help explain the variation in housing finance across emerging market economies such as Rwanda. Across developed countries, which tend to have low macroeconomic volatility and relatively extensive credit information systems, variation in the strength of legal rights helps explain the extent of housing finance. To a certain extent, a statistical comparison of the loan to- value and loan-to-income ratios can provide a good indication of the risks that owner occupiers run in financing their own home. At the same time, this kind of comparison ignores the causes of the risks, namely the volatility or uncertainty of future interest rates, house prices and changes in income (Adler & Lehmann, 2012). It also disregards the main mortgage characteristics, the cost of taking out a mortgage, and the direct and indirect subsidies, including interest deductibility, factors that have a big influence on the real costs and risks for homeowners.

2.3.2 Structural-Form Theory

This theory was formulated by Pottow in the year 2007. It documents the evolution of mortgage finance in SSA (Sub- Saharan Africa) to determine what steps need to be taken to extend it to the middle-class, to enable them to address their housing needs to the extent of their affordability. The theory revealed that there have been a number of problems when it came to the delivery of formal housing finance among most, if not all the countries. These problems are a record of macroeconomic instability, an adverse institutional, legal and regulatory environment which has resulted in inefficient, collateralization of housing assets, a poor record of public sector housing banks, building societies and other specialist housing lenders in that most have been destroyed due to poor management and a lack of funds and limited availability of long-term funding sources to carry out intermediation that would spread the cost of a house over a relatively long period of time(Levy- Yeyati & Sturzenegger, 2005).

2.4 Theoretical Framework

2.4.1 Underpinning Theory

The theories underpinning this study 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. By simulating real-world situations, mortgage finance experts can test different scenarios for determining risks and weak areas. This helps in evaluating the potential impact of different risks on business functions and processes. On the other hand, Structural-form theory 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.

2.5 Review of Empirical Studies

Ude and Ibekilo (2024) investigated the relationship between housing finance and sustainable housing development in Nigeria using data from the Nigeria General Household Survey Panel 2018-2019. The study adopted the Geographically Weighted Regression (GWR) methodology and the panel fixed effect model to study housing finance, and sustainable housing development in a bid to explore their implications for urbanization in Nigeria. Geographically weighted regression (GWR) is an exploratory technique mainly intended to indicate where non-stationarity is taking place on the map, that is, where locally weighted regression coefficients move away from their global values. Results suggest that housing finance has a positive and significant effect on sustainable housing availability in Nigeria. Results also suggest that housing development has positive significant impact on urbanization in Nigeria.

Kamau and Mulyungi (2023) examined the effect of mortgage financing on performance of real estate sector in Rwanda: The study population consisted of staff in all real estate firms in Nyarugenge District, Kigali Rwanda. After that, the coded information was entered into SPSS and evaluated through descriptive as well as inferential statistics. Descriptive analysis which involves computation of mean, mode, median, standard deviation, and percentages was carried out to determine frequencies and percentage distributions. Correlations and regression analysis was calculated to draw inferences to the entire population. Multiple linear regression model was used to analyse the quantitative data since is comprises one dependent variable and multiple independent variables. Correlation and coefficient was calculated from the data to determine if there is a relationship between the variables under investigation. The study findings indicated that all the four variable that is mortgage interest rates, inflation, mortgage risks and loan terms greatly and positively affect the performance of real estate sector in Nyarugenge District, Rwanda. The study recommended that Rwandan government should provide good economic base to enable real estate firms access mortgages and boost the industry.

Mboto, et. al. (2023) examine factors of mortgage that affect housing development in Nigeria. The specific objectives were to; examine the effect of interest rate, mortgage bank deposit, mortgage investment on housing development. Data for this study were sourced from secondary data and were extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin and the National Bureau of Statistics, Nigeria. Data obtained were tabulated, analyzed and tested using the ordinary least square multiple regression statistical techniques. Based on the result, the findings revealed thus; there was a significant effect of mortgage loans on housing development; there was a significant effect of interest loans on housing development; there was a significant effect of mortgage investment on housing development, and there was a significant effect of mortgage bank deposit on housing development.

Abdullahi et. al. (2022) investigated the effect of Primary Mortgage Banks (PMBs) recapitalization on Nigeria's mortgage depth. Ex-post Factor research design was adopted and data were extracted from the annual financial statements of all the 34 PMBs and annual report and accounts of the Central Bank of Nigeria (CBN) covering a period of 9 years (2011-2019). The data were analysed using multiple regression analysis and the result showed that Shareholders fund (SHF) has a negative and significant effect on mortgage depth (MD) while Capital Adequacy Ratio (CAR) and Loans-to-Deposit Ratio (LDR) have a positive and statistically significant relationship with mortgage depth (MD).

Iwundu (2022) examined the impact of mortgage financing on the economic growth of Nigeria. The study used primary mortgage institutions loan, insurance companies' real estate investment, Deposit Money Bank private sector credit as independent variables and economic growth was proxy with real gross domestic product as the dependent variable. Data for the study were obtained from the Central Bank of Nigeria Statistic Bulletin (CBN) and analysed using Ordinary

Least Square (OLS) Model. Findings indicated that there is a long run relationship between mortgage financing and economic growth in Nigeria. The short run result shows that a negative and insignificant relationship exist between deposit money bank credit to private sector and economic growth in Nigeria, but a positive and significant relationship exist between primary mortgage institutions loan, insurance companies' real estate investment and economic growth in Nigeria.

3. Methodology

This research utilised quantitative method on the *ex–post-facto* research design. Times series secondary data was sourced from the Central Bank of Nigeria Statistical Bulletin covering a period of 1995 to 2023. In addition, data were sourced drawn from the internet, academic journals, dissertation amongst several others. Econometric Views (E-Views) was the statistical software used in presenting the data. The data so collected were analysed by descriptive statistics, correlation analysis and unit root test. Similarly, Autoregressive distributed lag was used to analysis the model

The mathematical model to be used for this study is stated below:

$$GDPFS = f(PMID, PMII, PMIL) \quad \dots (i)$$

The model is then translated in econometric model:

$$GDPRE_t = \beta_0 + \beta_1 PMID_{t-I} + \beta_2 PMII_{t-I} + \beta_3 PMIL_{t-I} + \mu \quad - - - (ii)$$

Where:

GDPFS = Gross Domestic Product of Real Estate Industry; PMID = Primary Mortgage Institutions Deposit; PMII = Primary Mortgage Institutions Investment; PMIL = Primary Mortgage Institutions Loans; β_0 = Intercept; β_1 – β_3 = Coefficients of the proxies of the independent variable. Equation (i) shows a relationship between gross domestic product of real estate industry as proxy for dependent variable; and primary mortgage institutions deposit; primary mortgage institutions investment; and primary mortgage institutions loans.

4. Results and Discussions

4.1. Descriptive Statistics

Table 1: Descriptive Statistics

	Mean	Median	Maximum	Minimum
GDP_RE	4373.37	3490.495	10503.07	150.73
PMID	98.90486	90.564	297.871	1.103
PMIL	378.3467	105.721	6000	0.395
PMII	57.70793	36.323	294.28	0.923

Researchers EViews Computation, 2025

The mean GDP of the real estate sector (GDP_RE) as presented in table 1 is approximately ₦4,373.37 billion, with a median of ₦3,490.50 billion. The GDP_RE ranges widely from a minimum of ₦150.73 billion to a maximum of ₦10,503.07 billion. For the independent

variables, PMID (deposits) has a mean of ₦98.90 billion and a median of ₦90.56 billion, with values ranging from as low as ₦1.10 billion to a high of ₦297.87 billion, PMIL (loans) shows a much larger spread, with a mean of ₦378.35 billion but a median of only ₦105.72 billion, and an extreme maximum value of ₦6,000 billion, Lastly, PMII (investments) has the lowest values among the explanatory variables, with a mean of ₦57.71 billion and a relatively low maximum of ₦294.28 billion, suggesting that investment by mortgage institutions has generally been limited in scope.

4.2 Unit Root Test

Table 2: ADF Unit Root Test

Variables	***at levels***			***at 1st difference***		
	t-statistics	t-statistics at 5%	P-value	t-statistics	t-statistics at 5%	P-value
GDP_RE	-2.52282	-3.58753	0.3155	-3.10932	-3.58753	0.1243
D(GDP_RE)	-3.10932	-3.58753	0.1243	-5.93607	-3.59503	0.0003
PMID	-2.30865	-3.59503	0.415	-2.41357	-3.6329	0.3631
logPMID	-1.34808	-3.6122	0.8501	-6.71654	-3.8753	0.001
PMIL	-5.24246	-3.58062	0.0012	-8.46974	-3.58753	0
PMII	-2.74774	-3.58062	0.2267	-5.91513	-3.58753	0.0003

Researchers EViews Computation, 2025

Table 2 presents the results of the Augmented Dickey-Fuller (ADF) unit root test conducted to assess the stationarity of the variables used in the analysis. GDP_RE was not stationary at level, however, when differenced once, the series becomes stationary. Similarly, PMID was non-stationary at level and even the raw first difference remains non-stationary. However, after logarithmic transformation (logPMID), the variable becomes stationary at first difference. On the other hand, PMIL was stationary at both level and first difference, PMII was non-stationary at level but becomes stationary after first differencing.

4.3 Multicollinearity Test

Table 3: Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
PMID	57.245	3.899094	1.519225
PMII	87.11457	2.75494	1.522
PMIL	0.19274	1.125191	1.007936

Researchers EViews Computation, 2025

The centered VIF values for all three variables are well below the commonly accepted threshold which suggest that there is no significant multicollinearity among the independent variables in the model.

4.4. ARDL Estimation

Table 4: ARDL Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOGPMID	-0.56485	66.19375	-0.008533	0.9934
LOGPMID(-1)	0.978777	0.272622	3.590233	0.0071
PMIL	0.003423	0.040019	0.085538	0.9339
PMII	5.509598	7.804508	0.705951	0.0003
R-squared	0.893519			
Adjusted R-squared	0.693868			
Durbin-Watson stat	2.267326			

Researchers EViews Computation, 2025

Table 4 presents the results of the Autoregressive Distributed Lag (ARDL) model estimation. The coefficient for the current value of LOGPMID is –0.56485, but it is statistically insignificant (p = 0.9934), suggesting that deposits made to primary mortgage institutions do not have an immediate effect on real estate GDP. Interestingly, the lagged value of LOGPMID is positive and statistically significant at the 1% level (coefficient = 0.978777, p = 0.0071), indicating that deposits contribute positively to the real estate sector's performance with a delayed effect.

For PMIL, the coefficient is 0.003423, but the relationship is statistically insignificant (p = 0.9339). This suggests that, contrary to expectations, loans from primary mortgage institutions may not have a meaningful direct effect on real estate sector performance during the study period.

In contrast, PMII has a large and statistically significant positive coefficient (5.509598, p = 0.0003), indicating that investments made by mortgage institutions are strongly associated with an increase in the GDP of the real estate sector.

The R-squared value of 0.8935 indicates that approximately 89% of the variation in real estate GDP is explained by the model, while the adjusted R-squared (0.6939) accounts for model complexity. The Durbin-Watson statistic of 2.27 falls within the acceptable range (around 2), indicating no significant autocorrelation in the residuals.

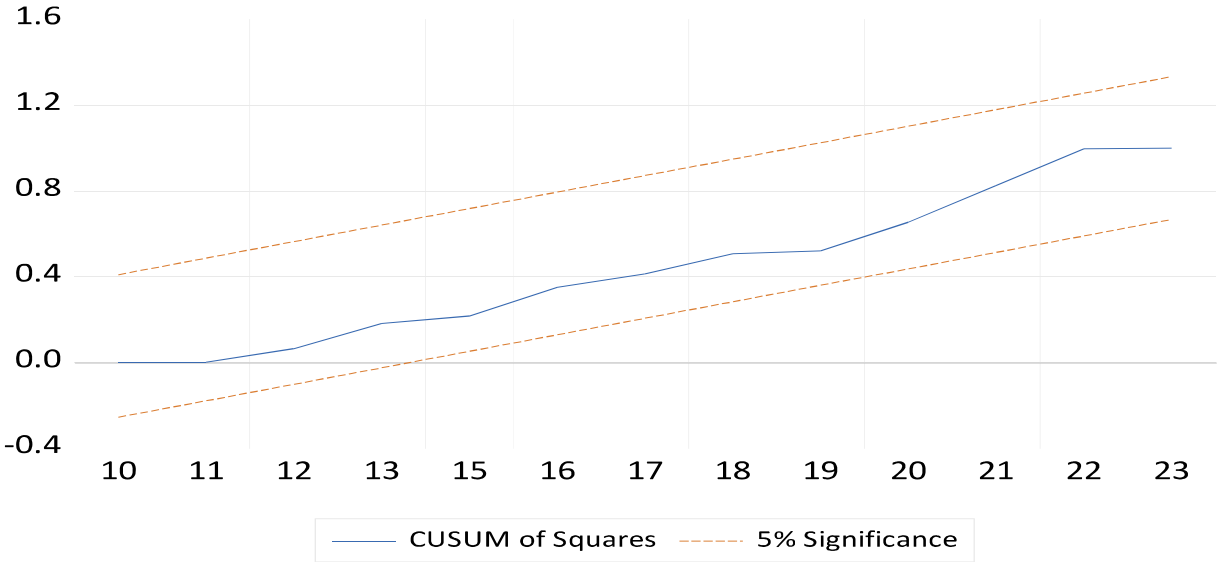


Fig 1: Adjusted Breakpoint Graph

The CUSUM of Squares chart displayed in fig 1 reflects the stability of the ARDL model after incorporating a dummy variable.

Table 5: Heteroskedasticity Test

Null hypothesis: Homoskedasticity			
F-statistic	0.314522	Prob. F(16,7)	0.9738
Obs*R-squared	10.03763	Prob. Chi-Square(16)	0.8647
Scaled explained SS	2.422506	Prob. Chi-Square(16)	1

Researchers EViews Computation, 2025

The results from the heteroskedasticity test show that the model's residuals have constant variance, as indicated by high p-values across all test statistics (F statistic p = 0.9738; Chi-Square p = 0.8647) which means there is no evidence of heteroskedasticity.

5. Conclusion and Recommendations

This study examined the effect of mortgage-related variables deposits, loans, and investments by Primary Mortgage Institutions (PMIs) on the Gross Domestic Product (GDP) of the real estate sector in Nigeria using an ARDL model. The findings revealed that neither PMI deposits nor PMI loans had a statistically significant impact on the real estate sector's GDP, suggesting inefficiencies in the transmission of these financial resources into productive real estate activities. Surprisingly, PMI investments, though initially showing statistical significance in an earlier model, were found in the final specification (with a dummy variable included) to have no sustained significant effect on real estate GDP either. The model passed diagnostic tests for stability, heteroskedasticity, and multicollinearity, suggesting that these findings are robust.

The study recommended that:

i. Primary mortgage institutions deposits, the Central Bank of Nigeria (CBN), in collaboration with the Mortgage Banking Association of Nigeria (MBAN), should establish guidelines that link deposit mobilization to mandatory housing development lending quotas. This would ensure that deposits collected by PMIs are more effectively channelled into real estate activities that directly impact sectoral GDP.
ii. Primary Mortgage Institutions Investment should be mandated to revise their loan disbursement and approval processes, with regulatory oversight from the Federal Mortgage Bank of Nigeria (FMBN). Efforts should focus on reducing bureaucracy and improving access to mortgage finance for low- and middle-income earners, ensuring loans translate into active housing construction and sector output.
iii. For Primary mortgage institutions investment, the Ministry of Housing and Urban Development should incentivize PMIs to prioritize direct investments in real estate development projects, particularly in underdeveloped urban and semi-urban areas. This can be achieved through tax relief schemes or matching grants for real estate projects undertaken by mortgage institutions.

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