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The effect of primary mortgage banks recapitalization on Nigeria's mortgage market growth

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Abstract
This research investigates the effect of Primary Mortgage Banks (PMBs) recapitalization on mortgage market growth in Nigeria with emphasis on the 34 PMBs in Nigeria. Ex-post Factor research design was adopted and data were extracted from the annual report and accounts of the Central Bank of Nigeria (CBN) covering a period of 7 years (2011-2017). The data were analyzed using multiple regression analysis and the result showed that Shareholders fund (SHF) has a positive and significant effect on mortgage depth (MD) while loan-to-deposit ratio (LDR) has an insignificant relationship with mortgage depth (MD). The study recommends that PMBs be recapitalized from time to time (five year interval) to maintain PMBs borrowing ability to secure more long-term debts as much as possible in order to create more mortgages that will further grow and develop the mortgage market, and PMBs should also put effort to increase lending from the mobilized deposits to further enhance the mortgage market and drive sufficient profit that will enable PMBs to remain afloat in the business to further support growth and development of the mortgage market.

Keywords: Shareholders fund, mortgage market, primary mortgage banks

1.0 Introduction

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. Homeownership 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 originations 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 (Priye & Gbalam, 2018).

Due to the ever-rising importance of housing and its capital intensive nature, programs 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 (Luca, Vitor and Ricardo, 2019).

In spite of these numerous efforts, Nigeria with an estimated population of about 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 (Clementina and Hamilton, 2015). 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. In Nigeria, the recapitalization policy was carried out to sanitize the banking sector and make it a framework that blends into the global financial dynamics, making the banking industry strong and reliable.

Over the years, the Nigeria's apex regulatory body, CBN has been taking a capital regulation measures known as recapitalization towards finding solutions to these myriad problems (Nasiru, Joshua, and Nasiru, 2012). Banking recapitalization has resulted from deliberate policy response to correct perceived banking sector crises and to avert failures and its systemic effect on the economy. The recapitalization of a bank is the act of strengthening a bank's long-term capital to the level at least required by the monetary authorities.

The first index of recapitalization that is meant to be enhanced is shareholder's funds. The shareholders fund of banks just like any other corporate organization is made up of the called-up share capital (which gives the company continuity of ownership) and reserves. Both reserves and called-up share capital constitute the total of the shareholders' funds, which are invested in the company. Credit losses and operational inefficiencies, however, deplete the shareholders' fund. Because of insufficient capital (shareholders fund) that would enable PMBs to access long-term funds in the capital market, the PMBs resort to short term deposit liabilities to finance mortgage lending. And these lead to a mismatch of short term funds with long term lending which is required to boost the lending activities of the mortgage market (Sanusi, 2003).

Another index of recapitalization is liquidity which is a reflection of the ability of a financial institution to fund the assets and fulfill financial obligations. Liquidity in banks is essential for satisfying customer withdrawals and providing funds for growth of businesses. It plays a valuable role in the mortgage market, especially where the mortgage lending environment has not developed sufficiently to allow for more sophisticated alternatives such as securitization or covered bonds. Banks with higher liquidity constraints could be subject to tougher investment constraints. Lacking liquidity can bring about customer's and investor's loss of certainty (Edem, 2017).

Banks globally enhance their resilience to future risks by substantially building up liquidity buffers to ensure the proper functioning of financial markets which helps to support credit flows in good and bad times (Claudia and Gerard, 2018). Lacking liquidity on the other hand can bring about customer's and investor's loss of certainty. And for some banks, in spite of the large size of assets, the sudden withdrawals and the unavailability of enough liquid funds to meet customers demand results to huge loss as a result of taking emergency loans. Thus, illiquidity affects bank operations which may impact negatively on the economy. To provide liquidity in the mortgage market and promote the availability and affordability of housing in Nigeria, the mortgage sector witnessed the establishment of the NMRC (CBN, 2013).

The CBN, in its effort to further address the challenges of the Nigeria's mortgage market, released a revised guidelines and policy framework in 2011 that require PMBs to shore-up their shareholder's fund from N100 Million to N5 billion N2.5 billion for national and state mortgage banks license respectively.

Statement of the Problem

While the Nigeria's average mortgage depth (ratio of mortgage loans to GDP) was 0.18% before the recapitalization exercise of the year 2011, however, the mortgage depth after the recapitalization period for shows 0.24%, 0.22%, 0.26%, 0.28%, 0.29%, 0.28% and 0.26% for the years 2011, 2012, 2013, 2014, 2015, 2016 and 2017 respectively. This indicates growth in the mortgage depth. Several studies on the effectiveness of bank recapitalization were conducted and carried out both within and outside of Nigeria. These past studies on the effects of recapitalization in the context of Nigeria including that were reviewed by the researcher including: Augustine, Sunday, and Baba (2020); Bright et al. (2020); Jurbe and Augustine (2019); Inim, Njogo and Olalade (2019); Stephen, Hanania, Eric and Mark (2018); Shraddha, and Shriram (2017); Madubuko, Obianuju and Clementina, (2017); Ifionu and Keremah (2016); Abuh, (2012); Adebisi, (2014); Alalade, Adekunle, and Oguntodu, (2016); Clementina and Hamilton, (2015); Ernovianti, Hayati and Rizal, (2016); Idowu, Lawal, Tewogbola, and Oyedokun, (2015); Jabar and Awoyemi, (2015), all focused on Deposit Money Banks that were hitherto known as commercial banks.

The findings of Akinjare, Adetiloye, Areghan, and Tochukwu (2016) showed low capitalization of PMBs in Nigeria as one of the major challenges in mortgage financing. More so, the findings of Akinwumi (2010) reveal that mortgage market in Nigeria is significantly driven by clusters of factors related to capitalization and reserves of financial institutions and therefore recommends that PMBs be adequately capitalized by way of increasing their capital base. In the same vein, Johnson (2018) recommends that the mortgage industry should pursue recapitalization agenda to improve its capacity to book more mortgage loans in addition to mortgage refinancing options to be leveraged on to increase mortgage assets. Furthermore, the available studies on bank recapitalization focused on DMBs. In the light of forgoing, the current study adapted the model of Augustine, Sunday, and Baba (2020) by adding loans-to-deposit ratio (LDR) as additional independent variable to shareholder's fund, to examine the effect of PMBs recapitalization on mortgage market growth in Nigeria following the recapitalization exercise of 2011.

The aim of this study is to examine the effects of recapitalization on Nigeria's mortgage market growth. While the specific objectives are as follows:

i. To examine the effect of Shareholders fund on Mortgage depth.
ii. To examine the effect of loans-to-deposit ratio on Mortgage depth.

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Literature Review

Bank Recapitalization

Literally, recapitalization means an improvement in the volume of long-term funds used to support an institution. Recapitalization is done by way of increasing the company's debt stock, issuing additional shares through current or new shareholders or could also take the form of mergers and acquisitions. Whichever form it takes; the end result is that long term capital stock of the organization is increased (Ifionu & Keremah 2016). Bank Recapitalization is a major reform objective which literarily means increasing the amount of long term finances used in financing the organization (Roseline, Sikiru & Oluwafemi 2014). It is a process where the amount of debts and assets of an organization are re-arranged to meet a financial goals and objectives. It is a major change in a corporation paid-in capital resulting from issuance of new shares of stock, exchange of common stocks of shares for bonds and notes, as in a leverage buy out (Jamal, Fatawu & Ahmed, 2014). The idea behind recapitalization of the banking industry is to improve so many indices in the sector. Among the indices to be improved include shareholders' funds and bank size (Gunu 2009). Furthermore, apart from the fact that recapitalization relaxes banks' financing constraints because they allow banks to lend out of the provided resources and also enhances the collateral value and hence allows them to increase lending.

The Concept of Shareholders Fund

Shareholders' fund of banks just like any other corporate organization is made up of the called-up share capital (which gives the company continuity of ownership) and reserves but does not include loan capital. Both reserves and called-up share capital constitute the total of the shareholders' funds, which are invested in the company. It is also regarded as the net assets of a company. Losses resulting from non-performing obligations may be absolved by a bank with a large capital base. The criteria for recapitalization can be fulfilled by consolidating existing banks or through raising additional funds via the stock market (Adegbaju and Olokoyo, 2008). Recapitalization and consolidation exercises should normally be seen as a welcome development in the banking industry, since it increases and enhances shareholders' funds (Onyekachi and Michael, 2016)

The Concept of Liquidity

Liquidity reflects a financial institution's ability to fund assets and meet financial obligations. Liquidity is essential in all banks to meet customer withdrawals and to provide funds for growth. Banks globally enhance their resilience to future risks by substantially building up liquidity buffers to ensure the proper functioning of financial markets which helps to support credit flows in good and bad times (Claudia and Gerard, 2018). Liquidity plays a valuable role in the mortgage market, especially where the mortgage lending environment has not developed sufficiently to allow for other more sophisticated alternatives such as securitization. The funding structure of a bank tells how its business, primarily lending, is financed. Typically, banks collect deposits to finance loans they grant. The LDR ratio refers to the total loans issued by banks in relation to the total deposits obtained from their clients. In other words, it illustrates the proportion of the loan book that is covered by deposits, believed to be a secure source of funding. If the ratio is too high, this means that the bank does not have ample liquidity to meet any unexpected fund needs and, on the other hand, if the ratio is too low, the bank does not earn as much as it would earn (Saleh, 2014). Lacking liquidity can lead to a lack of certainty for customers and investors. And for some banks, amid large asset sizes, abrupt withdrawals and the lack of adequate liquid funds to meet customer demands, emergency loans result in huge losses. Illiquidity thus affects bank activities, which can adversely impact the economy (Edem, 2017).

The Mortgage Market

The mortgage market is a phrase that explains the various institutions and individuals who are in one way or the other involved with mortgage finance (Daniel and Daniel 2008).) The mortgage market is a market for financing real estate estates and therefore the provision of housing cannot be successful if a nation does not have a well-developed mortgage market (Femi, 2013). Growth in the mortgage market can occur when the types of mortgage loans increase, when the rates of these mortgages are affordable when mortgage financing is the preferred mode for acquiring housing for companies and individual when the housing supply meets the demand in the market when the competition in this market is strong enough to moderate rates through several competitive commercial mortgage providers. The mortgage market is divided into two interrelated entities: the primary mortgage market and the secondary mortgage market. While the primary mortgage market is a market where new mortgages are originated, the secondary mortgage market is a market where existing mortgages are bought and sold (Daniel and Daniel 2008).

Empirical Review

Augustine, Sunday, and Baba (2020) evaluate the impact of recapitalization on the financial performance of insurance establishments in Nigeria for the period 2009-2018. The result shows that recapitalization, proxy by shareholder’s fund has a positive and substantial relationship with financial performance of insurance firms.

Bright, Emmanuel, Faustina, and Adelaide (2020) examine the effects of recapitalization of banks on the cost to income ratio, profit before tax, non-performing loans, ROA, ROE, NIM, CAR, liquidity ratios, and asset quality ratios for the period 2007 to 2018 in Ghana. Using the t-test, the result shows that bank recapitalization has the potential for promoting the performance of the banking sector.

Obuobi et al. (2020) examine the effect of banks recapitalization on the Ghanian banking sector for the period 2007-2017. The findings show that recapitalization has indeed affected performance proxies (cost-to-income, profit before tax, ROE, ROA, NIM, CAR, and liquidity ratios.

Jurbe and Augustine (2019) investigate the effect of recapitalization on the growth of deposit money banks in Nigeria and found that bank total assets, total deposit, and liquidity all have a positive and significant effect on growth of DMBs.

Inim, Njogo, and Olalade (2019) investigate the impact of the banking reforms on the stability of the Nigeria’s banking sector. Using panel data regression technique on secondary data from 2005 to 2017, it was found that total assets, performing loans, and operating expenses exerted significant influence on total deposit, which was used as a proxy for banking system stability. It was also observed that NPLs, though insignificant had a negative influence on total deposits.

Caleb and Linda (2019) evaluate the effect of bank recapitalization on the profitability of banks in Ghana on 30 banks for the period 2007-2016. The result shows that recapitalization has a negative, significant impact on banks' profitability. This means that the regulatory increase in capital for banks have not helped the profitability of the Ghanaian banking industry.

Stephen, Hanania, Eric, and Mark (2018) investigate the impact of recapitalization on the performance of the bank of Ghana for the period 2009-2015. The results showed that ROA, ROE, and PBT have significantly improved after the recapitalization.

Ambrose, Jim-Suleiman, and Datong (2018), assess the effects of recapitalization on the profitability of quoted DMBs in Nigeria for 2005-2016 period using Shareholders' funds and GDP as proxies of recapitalization. The result shows that recapitalization affects the ROA of banks.

Shraddha, and Shriram (2017) examine the relationship between capital adequacy ratio and non-performing asset levels of public sector banks. Using data for the period 2009-2015, the result of the study shows a negative correlation /relationship between non-performing assets and CAR.

Mogaka, Mboya, and Kamau (2014) examine the influence of capital market deepening on mortgage growth in Kenya for the period 1984 to 2013. Using total mortgage lending as a measurement for growth of the mortgage market, the result of the study shows that bond market turnover ratio and the ratio of private credit to GDP were excluded from the analysis. Insurance and pension assets were found to have the greatest influence on mortgage growth while equity market capitalization to GDP has a negative influence.

Theoretical Framework

Buffer Theory of Capital Adequacy

The buffer theory of Calem and Rob (1996) implies that a bank exceeding the regulatory minimum capital ratio will have an opportunity to increase capital and mitigate risk to avoid the regulatory costs incurred by a capital breach. Based on the buffer theory of capital adequacy and bank lending spread, banks will tend to keep a buffer of excess capital to reduce the probability of dropping below the probability of capital breach.

Portfolio Regulation Theory

The theory opined that the regulation of banks is necessary to maintain the safety and soundness of the banking system, to the extent, which puts them in a position to meet its liabilities without difficulty. If the asset portfolio is perceived to be too volatile or insufficient for capital, the applicable supervisory agency can attempt to force the bank's balance sheet to adjust (Peltzman, 1970). The theory justifies the reason for increasing the capital requirement of PMBs in Nigeria by the CBN as regulator of the banking sector and by extension the mortgage sector.

Liquidity Provision Theory

Depositors as creditors in their relations with banks, face liquidity risk in sense of possibility needing liquid funds. The trade-off between liquidity and return forces them to hold their wealth (at least partially) in form of bank deposits. If many depositors withdraw, others are pushed to imitate this behavior, which produces a phenomenon known as bank runs. Consequently, banks face a dilemma either to invest in short-term (liquid) assets and not to perform their term-transformation function or to invest (at least partially) in long-term assets and thus face the possibility of bank runs (Diamond and Dybvig, 1983).

Research Framework

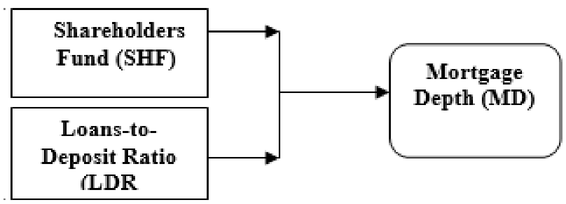

Figure 1: Research Framework
Source: Developed by the Researcher (2020)

Methodology

The study used an ex-post facto research design because it sought to make a systematic empirical investigation of the relationship between the variables to this study. According to Sekaran (2003), cause-and-effect relationships are established through what is called the ex post facto design. The study used a secondary data collected from CBN for the period 2011-2017 and analyzed through statistical and computational techniques to establish the relationship and among the variables, hence, a degree of correlation and regression design. The population for this study is the 34 PMBs in Nigeria and the entire population of the study was studied. The choice of whole census was based on the nature of data available for use and nature of the research.

Table 1: Variables Used by Authors and measurement

Variables	Measurement
Dependent variable	Ratio of Mortgage Loans to GDP
Mortgage Depth (MD)	(Owuor, Githii, & Mwangi, 2018); (Mogaka, Mboya, & Jared, 2015); (Warnock & Warnock, 2008)
Independent Variables	The amount of shareholders Fund
Shareholders Fund (SHF)	(Caleb and Linda, 2019); (Augustine, Sunday, & Baba, 2020)
Loan-to-Deposit Ratio (LDR)	Ratio of loans and advances-to total deposits (Jurbe and Augustine, 2019)

Source: Developed by the researcher (2020)

Results/ Findings

Table 2: Descriptive Statistics of Variables

Variables	Obs	Min	Max	Mean	Std. Dev
SHF	7	10.872	11.143	10.989	0.13912
LDR	7	70.67	80.43	76.96	4.0844
MD	7	0.24	0.29	0.262	0.0228

Source: Generated by the author from Annual Report Data of the CBN using SPSS

Table 2 shows the mean of 0.2620 for MD meaning that the average MD of Nigeria is approximately 26.20% with the minimum and maximum of 0.24% and 0.29% respectively and a standard deviation of 0.02280. The SHF measured by natural logarithm of shareholders fund shows an average of 10.99 with a minimum of 10.87 and a maximum of 11.14. It records a standard deviation of .13912. The LDR shows a mean of 76.96% with a minimum, maximum and standard deviation of 70.67%, 80.43% and 4.0844 respectively.

Table 3: Correlation Matrix of the Dependent and Independent Variables

Variables	SHF	LDR	MD	VIF
SHF	1.000			2.16
LDR	0.629	1.000		2.24
MD	0.964	0.778	1.000	1.70

Source: Correlation Matrix result from SPSS

Correlation Matrix

The correlation between the dependent and independent variables are presented in Table 3. The correlation matrix table shows the relationship between all pairs of variables in the regression model and the relationship between all the independent variables and the dependent variable. This gives an insight into the magnitude of the pairs of the independent variables. Table 3 values of the correlation coefficient range from -1 to 1 which indicates the direction of the relationship (positive or negative), the absolute values of the correlation coefficient indicate the strength, with larger values indicating stronger relationships. The result reveals a positive correlation figures of 0.974 and 0.778 for SHF and LDR respectively with MD. The variance inflation factor test (VIF) of the variable revealed absence of multicollinearity as the VIF ranges between 1.70 to 2.24.

Table 4: Regression Results of Bank Recapitalization and Mortgage Depth

	Coefficient	Std Error	t-value	Sig
Constant	-1.275	0.211	-6.049	0.026
SHF	0.129	0.022	5.842	0.028
LDR	0.002	0.001	2.106	0.170

R^2 0.978
Adjusted R^2 0.956
p-value 0.022
F-statistics 44.694

Source: Regression Results Computed by the author using SPSS, (2020)

The regression results in Table 4 reveal that r-square 97.80% meaning that these variables account for 97.80% changes on MD. The first hypothesis was tested using multiple regression analysis as shown in Table 4. The figures (β= 0.129, t= 5.842 P<0.028) reveal that SHF has a positive and significant effect on MD. The result multiple regression result for hypothesis two shows (β= 0.002, t= 2.106, P<0.170). This shows that LDR has a negative and significant effect on MD.

Discussion of Findings

Based on the result of this empirical study, SHF has a positive and significant effect on MD. This is in line with the findings of Duchin and Denis (2014) where capital injection was found to lead to an increased mortgage lending. It is also in line with the findings of Okapala (2013) that a well capitalized bank enhances lending to productive sector of the economy to which mortgage is a part-of. The result contradicts Valentina and Enrico (2016) and Arzu and Tomasz (2017), where they found that a rise in capital leads to a decline in mortgage loan supply.

The finding of the study shows that LDR has an insignificant and near no-effect on MD. This supports the findings of Putri and Akmalia (2016) and contradicts Siravati (2018) and Pradana and Sampurno (2013) where LDR was found to have positive effect on mortgage loans volume.

Conclusion and Recommendations

This study investigates the effect of Primary Mortgage Banks recapitalization on mortgage market growth in Nigeria for the period 2011-2017. And from the findings of the study, the following conclusions where made; there is a direct effect of SHF on the mortgage depth (MD) in Nigeria. The study found insignificant and near no-effect of LDR and mortgage depth (MD) in Nigeria.

It is recommended that the shareholders PMBs be increased (revised) by way of recapitalization from time to time (five-year interval) to maintain PMBs borrowing ability to secure more long-term debts as much as possible in order to create more mortgages that will further grow and develop the mortgage market.

It is also recommended that PMBs should also put effort to increase the proportion of lent funds from the mobilized deposits to further enhance the mortgage market and derive sufficient profit that will enable PMBs to remain afloat in the business.

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