

THE NATIONAL HOUSING FUND, MORTGAGE FINANCE AND CAPITAL FORMATION IN NIGERIA

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ABSTRACT

Mortgage financing is one the ways by which housing stocks are added and capital formation takes place in an economy. The paper examined the impact of the National Housing Fund (NHF), a government agency, in the process of capital formation in Nigeria. The paper adopted some key variables among which are the capital formation, lending rate and capital expenditure and the various aspects of mortgage loans in the economy. The paper employed the Two Stage Least Square (2SLS) techniques to measure the impact of the various units. It discovers that the mortgage loan generally is significant and insurance companies advances for mortgage is also significant while the National Housing Fund (NHF) is not significant. This is however due to many problems bedevilling the Fund. The paper recommends among others, the deepening of the mortgage finance market, further assistance to the help to the National Housing Fund and while the government incentivises the firms involved in lending on mortgage fiscally to improve performance and capital stocks in the economy.

Introduction

There is no doubt that there is dearth of finance to deal headlong with the problem of housing finance and creation of mortgages to assist in the provision of accommodation for teeming population that needs housing accommodation. These, arising from a myriad of factors that stem from the financial environment have clogged the opportunities for developers to build affordable housing units for the population. The contribution of the real estate sector into the capital formation of most countries is quite notable but not so pronounced in Nigeria. While the real estate sector has contributed above 80 percent to capital formation in most developed economies, USA for example, it is considerably less in Nigeria. Housing, a significant aspect of total capital formation in the economy has lagged behind in the process of aggregation capital stock for the economy. The National Housing Fund (NHF), sometimes referred to as the Fund, is the vehicle through which the government intended that funds can be aggregated specifically for housing development and construction by Nigerians and firms developing housing units for accommodation purposes. This critical government initiatives performance and outputs has remained obscure for two decades after its establishment.

The only pass-through method that the NHF can impact the housing industry, especially in its delivery, is through the on-lending of the resources at its disposal to mortgage loan applicants seeking assistance in the quest to own their own homes. The number of units needed to accommodate the population in Nigeria continues to increase with every new birth and migration. The situation is acute in the urban areas of Lagos, Abuja and Port-Harcourt especially for the low income earner who cannot have comfortable housing. An estimate of the annual requirements for Lagos city alone is a staggering 224,000 units (CityScape, 2009). This estimate is far more than what the government can finance alone from the existing budgetary and institutions framework. Therefore, there is need for innovative finance mechanism to meet the requirements of housing for Nigerians cannot be overemphasized in the present circumstance.

Hitherto, there have been constant failures of most government plans and programmes on housing in Nigeria. For instance, government delivered only 1024 housing units out of 121,000 units planned in 1999 (Ajanlekoko, 2001). Furthermore, the performances of government can be seen clearly from the decline in the number of PMIs and volume of loans approved over the years 1981 to 2010. The numbers of the on-lenders - the Primary Mortgage Institutions (PMIs) licensed to lend to mortgage applicants rose to a high of

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289 before declining between 1994 and 1996. Presently less than 80 of these financial institutions render periodic reports to the Central Bank of Nigeria (CBN 1997, 2010). Similarly, the quantum of total funds budgeted for housing in the Ministry of and Housing and Urban Development (HUD) has progressively declined in real terms.

The essence of the provision of housing units to the population on a mass basis goes a long way to improve the capital formation for the benefit of an improved labour, its efficiency and productivity. This can happen in a variety of ways. One, an aesthetically conducive environment, green surroundings and a good night rest is provided by a well planned and effective housing finance. Two, capital and asset stock of the country increases which reduces the cost of production in several ways. Three, the future is made yet brighter for the upcoming generation to bequeathing an institutional legacy and system both individually and nationally. Previous studies that employ secondary data for the mortgage finance market and capital formation in Nigeria is sparse, if available. This study would therefore be very important in this respect.

The basic major objective of this paper is to investigate the impact of the government mortgage financing sponsored housing finance programme in the process of capital formation in the Nigerian economy. The ancillary objectives are to investigate the impact of the housing finance system in the capital stock aggregation while at the same time evaluating the possible methods for progress with the current system. To do this, the paper is organised in a standard format. This section is the introduction, which is followed by the literature on the existing government sponsored housing finance system in other parts of the world in addition to general review of existing literature. The third section explains the data and methodology while section four discusses the results. Section five recommends solutions to the problems and concludes the paper.

2.1 National Housing and Mortgage Finance

A Government Sponsored Enterprise (GSE) like the National Housing Fund (NHF) is expected to expedite development plans and move the focus of governments to their desired objectives. For instance, the GSEs in housing and mortgage finance in the United States (Freddie Mac and Fannie Mae) increased their activities to support the underserved of the population within a few years establishment (Ambrose and Thibodeau, 2004). The government over the years have left the managers of the Fund to themselves to rely on the legal instrument creating it to achieve the objectives by itself. From available records, of the more than two decades of its establishment, the Fund has not been re-evaluated to see if the objectives are being met.

Adedokun, *et al* (2011) believes one of the weaknesses of the scheme is the insufficiency of the on-lenders (the Primary Mortgage Institutions or PMIs) as most are based in Lagos. The paper also observes a wide disparity between the amount applied for and the amount approved. The paper recommends the approval of more PMIs though the present firms do not face any ostensible barriers to entry; also are there incentives for new PMIs to enter the market. The Fund has faced various problems ranging non-compliance by intended contributors (corporate and individual), non remittance of the deductions made by employers, lack of transparency in the management of the Fund and constraints to access by the intending applicants. All of these make the programme less credible to the Nigerian populace.

The problems of the Fund have revolved around credibility that arise from Nigerians not believing in its objectives to the perceived possible maladministration of contributions before being made by the managers of the Fund: The Federal Mortgage Bank of Nigeria. The Fund has generally not been successful in its twenty years of operations in spite of the contributions it has received from the public and has failed to rise to the challenge of aiding Nigerians to own their own accommodation (EFinA, 2010). The government has not financially assisted the Fund other the earlier equity contribution, neither has it helped to enforce compliance of its laws and compel contributions from persons and institutions. These have made the purpose of the fund to become unachievable as well as less credible to Nigerians. The NBS (2010) reports that majority of the houses in Nigeria are residential with about 93.3% while commercial buildings constitute 4.6%.

2.2 Housing and Mortgage Finance

The use of either housing loans or mortgage system to acquire dwelling places by Nigerians is of interest because of the level of income and the relative small size of the mortgage market compared to the size of the financial market. Housing and mortgage finance market should represent a sizeable proportion of domestic financial market because of the relative long term structure of mortgage financing. Warnock and Warnock (2008) comparing a number countries grouped alongside development strata shows that stronger legal

rights for both borrowers and lenders, macroeconomic conditions and deeper credit information system are strong factors that can help in deepening the mortgage market in any country. The more the information available and the easier it is to enforce collateral rights (ability to possess), the bigger the market tends to be in all countries, size of the country notwithstanding. The Nigerian market is especially difficult given the macroeconomic volatility that makes policies to become unstable and therefore unreliable in the long term. Figure 1 indicates the relative importance of residential accommodation for the single family occupying a whole house which increased slightly from 23.7 to 27.2 between 2007 and 2008. Affordability problems seem to be one of the problems faced by the intending mortgagor while paucity of long term finance is another problem plaguing the market. As in MENA countries, more Nigerians would have benefitted from mortgage loans they were affordable (Sanders 2005). Other problems identified by Sanders (2005) include incomplete or weak financial institutions and cultural barriers.

The impact of a well developed mortgage market in the financial environment can be quantified from the crowding in effect of the other investments that could lead to exports in Nigeria. Adopting an instrument distributed to nearly all the participants in the mortgage and construction industry, Nubi (2005) admits that the market is far from being developed and PMIs operations are bundled. Repayment problems occur where macroeconomic changes affect the income of mortgagors who become unable to meet their financial obligations. Another critical problem of mortgage and housing finance in Nigeria remains the Land Use Decree 1978 (EFinA, 2010) which has made acquisition of title on land a near impossibility. Other problems are inflation, land acquisitions and documentation, insufficient capital base for the PMIs, financial constraints in the market, high cost of building material and inadequate infrastructure are others.

Housing as investment and consumer good constantly yields positive values. Investment in own housing is an important part of personal financial planning which enables the individual to build a hedge against inflation and erosion of currency values. In addition, housing has been noted to compel people to save in Nigeria and is not known to affect the BOP adversely (Chatterjee, 1979). The use of cheap local building materials, for example the Compressed Stabilized Laterite Bricks (CSLB) have been advocated, but this would need constant encouragement and enlightenment for it become successful and acceptable (Alagbe, 2011). The impact of mortgage finance can be important in poverty reduction, growth and general economic development of the country especially during construction.

The mortgage sub-sector of the financial system developed more rapidly during the era of universal banking between 2000 and 2010 and was more pronounced after the banking recapitalizations of 2004 - 2006. The sector enabled the banks to expand their operations with the establishment of PMIs or take-over of insolvent institutions. Thus, the PMIs were strengthened and were able to lend more for mortgage purposes from 2006 since mortgage loans increased from ₦2.1 billion to ₦7.56 billion and on to ₦40.76 billion in 2007. However, many of these PMIs are frustrated with the management of the NHF and its inability to function as envisaged. Many of the more viable ones especially quoted PMIs have accessed other sources of long term funding externally to provide mortgage loans to Nigerians including partnering with construction firms, Examples are (a) Abbey Building Society plc (with IFC backed Mortgage Facility Refinance Company and Union Homes plc (with Swaffer Pty of South Africa). One noticeable feature in the housing market is the insurance firms who rather than make their funds available through the FMBN to NHF preferred to directly involve in the construction and mortgage business by lending directly and constructing properties for sale or let.

2.3 Housing and Capital Formation

The Central Bank of Nigeria (2007), generally defines capital formation as the total change in the value of fixed assets in the economy in addition to fixed stocks (or Gross Domestic Investment). While gross fixed capital formation is expenditure undertaken on fixed assets either for replacing or adding to the stocks, and refers to the increase in the fixed capital stocks of the capital formed. Net accumulation of capital assets as represented in the GDP of a country from various sources is often referred to as fixed capital formation. The components of the Nigerian capital formation as analysed by the National Bureau of Statistics (NBS, 2011) comprises of both tangible and intangible stocks. The intangibles are the soft assets, and increases or improvements on them. They are also known as the non-produced assets that eventually add up to increases in productive capability of the country. The statistics further states that the net increase in capital formation in the country in 2010 was merely ₦2.965 billion (about \$19.2 million) which has been propelled by capital equipments imports by firms involved in crude oil exploration and exploitation. Capital formation is of great importance in most developing countries as they have continued to lag behind in most of the

Human Development Indices (HDI) that helps the acquisition of capital goods that improve life and make business efficient. While public sector capital expenditure has been a major means of increasing the total quantum of capital assets available and impacting development and growth in the economy, private sector investment has also become important which has improved employment.

Equally, the rate of gross real investment in Nigeria on housing has reduced for of lack of sufficient finance. This should propel further investment in ancillary sectors such as building materials manufacture. Reduction in investment in public infrastructure itself has affected the quantum of capital formation. The neglect of the infrastructural development has lead to increased poor performance of macroeconomic indices, which further leads to poverty for the people (Charterjee and Morshed, 2008). Over the years there has been steady decline in the capital expenditure and especially the gross public expenditure, which is one of the sources of capital formation in any economy. From the data available, the Nigeria economy has recorded a consistent decline of investment and in allocation to the housing sector, while the GDP has increased in the meanwhile, though this seems to be a worldwide phenomenon. The accumulated external reserves of the country has been advocated to be used for public real investment including housing in Adetiloye and Oyerinde (2009) rather than keeping in liquid form which aids capital flight out of the country.

While savings is regarded as the primary source for all forms of investment, secondary sources of investments exist in the economy (Moore, 2006) and some of the investments may not be immediate to the creation of further capital. Also, governments by their public expenditure do influence the direction of other investments by crowding them in. Equally, they also crowd out investment through their use of deficit financing and other fiscal expansion methods (Heim, 2008).

The private sector has made very significant contributions to the Nigerian housing market which has increased the capital formation. The various non governmental bodies, cooperatives, corporate organisations, estate agents, non-governmental organisations and religion bodies have made valuable contributions to the capital formation in Nigeria through their involvement in building constructions (Gbadeyan 2011). The greatest contribution has been from the real estate agents and developers who however have been hampered by inadequacy of finance. This is probably in support of Buckley *et al* (1993) and Akeju (2007). The cooperatives are particularly resourceful in sourcing and providing finance for their members to build dream homes. The banks have made more resources available than the conventional PMIs whose main responsibilities it is to source money and finance construction of properties for accommodation but always have a shorter tenure of loans than in normal mortgage. An examination of the loans and advances of the Deposit Money Banks (DMBs) reveal that there has been higher quantum of funds flowing from them into construction of properties than the PMIs have made available. All these have added to the total capital stock available in Nigeria. From the foregoing it is clear that the governments' contribution to the capital formation through the real estate has dwindled considerably over the years.

3. Data, Measurements and Models Specification

Accessing data is a challenge of the housing financial system. Data to measure the macroeconomic variables are not consistently recorded. The paper tests the contributions of the NHF in the process of capital formation in Nigeria through the on-lending activities of the PMIs. The variables adopted in this paper are obtained from three principal sources. Data on lending interest rates, capital expenditure of the government and total mortgage loans of PMIs were obtained from the Central Bank of Nigeria. Capital formation (aggregate and sectoral) was obtained from National Bureau of Statistics and NHF mortgage loan was abstracted from the compounded aggregates of the three listed primary mortgage institutions namely Abbey Building Society plc, Resort Savings and Loans plc and Union Homes plc. The FMBN does not have a publicly available record of the contributions and contributors of the NHF neither does it publish an Annual Report and Accounts of its activities as common for most financial institutions. The insurance companies loans to mortgages and housing was obtained from the National Insurance Commission NAICOM. Variables used in this study are measured from 1981 to 2010. Some of the variables had longer annual data for the period, while other had much less. Available and useable variables were truncated to 14 years.

Hypothetically, it is averred that the National Housing Fund (NHF) has not been impactful to the fixed capital formation in Nigeria or that they both (the NHF and mortgage loans) have not contributed significantly to capital formation in Nigeria.

The Two Stage Least Squares (*2SLS*) was adopted to analyse the data. Firstly, it would help in solving the problem of simultaneity bias that violates the assumptions of classical Ordinary Least Squares (*OLS*). Secondly, two variables are linearly correlated in the adopted model: this reduces the maximisation of the results of an *OLS*. The two variables are the *NHF* and the mortgage loans. Two-stage least squares (*2SLS*) adopts the use of instrumental variables regression. It involves the progressive estimation of two least squares regression in two distinct stages. In the first stage, *2SLS* finds the portions of the endogenous and exogenous variables that can be attributed to the instruments (Söderbom, 2009). Essentially it involves estimating an *OLS* regression of each variable in the model on the set of instruments. The second stage is a regression of the original equation, with all of the variables replaced by the fitted values from the first-stage regressions. The coefficients of this regression are the *TSLs* estimates. The use of autoregressive first order $\{ar(1)\}$ was adopted to assume non-linearity in the process of the estimation and *ARCH* to correct for heteroskedasticity.

The choice of predictor and instrumental variables are made based on the role of each in the process of capital formation and mortgage finance. Thus adopted variables are either predictors or instruments. Since mortgage is central to the process then it becomes the fulcrum to the regression estimates. Instruments are uncorrelated with error terms and correlated with the basic variable x . The instruments are *INSMTL*, *NHFL*, *KAEXPD*, and *LRATE*. According to Oczkowski (2003) the process of building the model is as follows

$$\gamma = \alpha + \beta x + \varepsilon \dots\dots\dots (1)$$

$$\eta_1 = \beta_0 + \beta_1 + \zeta_1 + \varepsilon_1 \dots\dots\dots (2)$$

Instruments are either the same number of χ es or more. Variables can be instruments and predictors at the same time

where γ is the dependent

$$\gamma_1 = \eta_1 + \zeta_1 \quad \chi_1 = \zeta_1 + \delta_1 \dots\dots\dots (3)$$

$$\gamma_1 = \beta_0 + \beta_1 + \chi_1 + \varepsilon \dots\dots\dots (4)$$

explicitly the model translate to

$$Gfcf \ fmlons \ lrate \ kaexpd \dots\dots\dots (5)$$

$$Mlons \ f \ lrate \ nhfl \ insmtl \dots\dots\dots (6)$$

where *GFCF*, *MLOANS*, *LRATE*, *KAEXPD* represent capital formation, mortgage loans, lending rate, capital expenditure respectively. The second stage is *NHFL* and *INSMTL* are the components of mortgage loan from the *NHF* and the insurance firms respectively. *NHFL*, *LRATE* and *INSTML* are predictors and instruments while and *KAEXPD* is predictor only. *MLONS* and *NHFL* are alternatively regressed as a result of the linearity explained above. The possibility of market reactions to the interest rate and expected volatility and control of serial correlations lead to the exploration of autoregressive first order *ar(1)* and the heteroskedasticity consistent covariance matrix estimator. This is indicated in Table 2.

4. Results and Discussions

Since the *NHF* data was abstracted from the data available on mortgage it becomes impossible to investigate a relationship because of perfect linearity. In addition, the total percentage of *NHFL* to *MLONS* is generally an average of 5.97%. Hence, the separate regression estimates. From the results and Figs, 1-3, the mortgage market actively started from 2001, the insurance firms lending to the mortgage market was significant as from 2004 and the *NHF* operations became observable, though insignificant as from 2006.

A descriptive process brings out the statistical characteristics of the variables adopted in the study. Table 1 shows the various lengths of the variables as available from the various data sources. They range from 14 to 30 years. Aggregate *DMBs* data was missing for most of the years that full data of 14 years employed were available. *INSMTL* has the lowest at 14 while *GFCF* has the highest of 30 years. The standard deviation of *KAEXPD* is the lowest and *GFCF* the highest. Overtime the rate of capital expenditure by the government to increase the capital stock of the country has gradually gone down with recurrent expenditure taking over. Where expenditure has been committed such expenditure has been ineffective. With *KAEXPD* as it is, Public investment by the government has not delivered commensurate capital value by the results. A further perusal also shows that sum square deviation is least for *GFCF* and highest for *NHFL*. From Figure 2 it is easy to discover the *NHF* became active as from 2005, thirteen years after it was established though it had some activities between 1996 and 1997. A direct comparison of *NHFL*, *MLONS* and *INSMTL* is not possible

with the dataset. It is however clear that that *NHFL* and *INSMTL* are comparable in quantum and *INSMTL* could be higher in the future depending on the attractiveness of the market for long-term funds.

The direct impacts of the each of the source of finance on capital formation become understandable with the regression estimates and results. Table 2 shows the results excluding *NHFL*. The correlation coefficients between the *NHFL*, *INSMTL* and *GFCF* show r of .887 and .872 respectively both significant beyond p 0.05. This underscores the impact of the both variables in the fixed capital formation.

The regression estimates for *MLOAN* is strong and robust under all circumstances showing significance beyond 0.05 level at t 2.369 and a good DW of 2.09. The use of mortgage loans to increase capital formation for residential accommodation is thus proved to be meaningful in Nigeria. The need to accelerate capital formation for the real estate sector can be achieved through the vigorous participation of the PMIs which will increase activities in the sector. The *NHFL* is somehow not so good achieving the best at higher than 0.10 level of significance with t of 1.635147 and with a DW of 1.59. The *NHFL* fails the non-linear test of $ar(1)$ when it became non-significant. The *INSMTL* unexpectedly performed better in all circumstances as it was quite significant with t of 2.319 at the worst case and performing much better with the correction. It is however curious that the insurance sector can displace the NHF in investment in the mortgage market!

The predictors of *LRATE* and *KAEXPD* do not show significance and were actually negative. The *LRATE* is understandable because higher interest rate on loans would drive borrowers away from the market, a negative *a priori* is for the *KAXPND* show that the public sector is not contributing to capital formation in Nigeria, especially where one expects the a good performance with autonomously driven investment in infrastructure as developing country. The negative impact of the *KAEXPD* indicates the worth of investment delivery by the public sector. The F Stat in all cases are good and the lowest is 6.73 while the highest is 17.09 for estimates without $ar(1)$. The Adjusted R^2 on the other hand also is acceptable for the regression estimates that include the *NHFL* and *MLOANS*. The R^2 0.81 for estimates of *NHFL* show a less fit *figure* while the *MLOANS* is higher at R^2 0.899. In both cases less than 20 percent of could be traced to other sources. The results show that the impacts of the loans are significant except for the *NHFL*. The *LRATE* follows *a priori* expectation with negative impact on capital formation in the economy.

5. Recommendation and Conclusions

The failure of the NHF in delivering mortgage finance to the people is as a result of public sector disinterestedness in redressing the housing finance situation. The rate at which the mortgage financing is contributing to capital formation is obviously low. The following recommendations become important in the face of the findings of the paper. The Federal Mortgage Bank of Nigeria (the managers of the NHF) must be compelled to render accounts and publish its records and its management of the NHF. The public sector should as matter of national importance support the NHF, rather than scrapping it as some labour and other pressure groups have been canvassing. The lack of trust by the financing and consuming public that exists in the management of the Fund will be over once its records are publicly available and its operations can be scrutinised. Also, the support of the government is required to put the NHF in the proper shape to perform its role by making grants or soft loans for its operations. Further support would involve assistance in enforcing the payment of contributions from the public and other institutions.

The mortgage finance market in Nigeria need to be deepened. This can be done by enhancing the role and the power of the PMIs to compete more effectively with the Deposit Money Banks or be given special coverage as it is done in the American financial system to be able to lend more on long term basis than at present. The PMIs that have forayed into direct construction or avenues to increase performance in housing finance should be assisted. In addition, financial capacity of the PMIs can be enhanced by further recapitalisation or mergers and acquisition with stronger financial firms such as banks.

Building capital stock by Nigerians at the current stage of development requires government inputs in form of fulfilling the promises it made by direct construction through its agents involvement in housing development in Nigeria. Granted the government intention to have this sector market-driven, the government can guarantee loans made for the purposes of residential housing development which would reduce cost of housing units considerably.

Ancillary institutions lending for and involved in real estate market in Nigeria should be encouraged fiscally to enable massive investment in the sector by the insurance firms and the like. The arguments of the insurance companies in refusing to release their funds to the FMBN have thus been justified on both counts as they had done better than the bank would.

This paper has investigated the impact of the mortgage market in capital formation in Nigeria, adopting data from the major participants. The literature discusses the mortgage market generally while it is discovered that this may be the first paper adopting secondary data to investigate this area in Nigeria. Using the technique of Two Stage Least Squares, it discovers that the NHF has not made significant contributions to capital formation in Nigeria, while generally the market has made significant contributions. In addition, the insurance firms' contributions have been significant. It recommends that the government assist the NHF to become more credible, while enforcing the laws that established it. It also submits that the government further deepens the mortgage market to achieve a level of success.

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TABLES AND FIGURES

Table 2 Descriptives of the Data Used In the Study

Statistics	GCFC	INSMTL	KAEXPD	LRATE	NHFM	MLOANS
Mean	596112.9	16137.67	7.537931	17.73433	1118.055	23289.03
Median	172983.9	1741.755	7.500000	18.13500	63.33751	1024.650
Maximum	4007832.	47394.51	15.60000	29.80000	7708.149	132876.1
Minimum	8799.480	211.9500	2.800000	7.750000	13.57850	208.9000
Std. Dev.	981528.5	21468.81	3.394051	5.212644	2364.199	44200.65
Skewness	2.152138	0.648843	0.570956	0.091258	2.219880	1.762125
Kurtosis	6.982615	1.485090	2.679835	2.912674	6.277022	4.342676
Jarque-Bera	42.98502	2.321048	1.699481	0.051172	22.83775	11.25997
Probability	0.000000	0.313322	0.427526	0.974738	0.000011	0.003589
Sum	17883388	225927.4	218.6000	532.0300	20125.00	442491.5
Sum Sq. Dev.	2.79E+13	5.99E+09	322.5483	787.9779	95020415	3.52E+10
Observations	30	14	29	30	18	19

Source: Compiled by Author

Table 3 Regression Estimates of the Mortgage loans without NHF

Variable	Equations 1	Equation 2 ar (1)	Equation 3 ar(1) ARHC
Constant	394639.1 (0.572417)	414632.6 0.542561	414632.6 (1.304936)
INSMTL	16.25521 (3.143602)***	15.41623 2.771836***	15.41623 (2.318661)**
KAEXPD	-25824.51 (-1.058286)	-25824.51 -1.058286	29086.86 (-1.690704)*
LRATE	6021.976 (0.194903)	7923.747 0.232179	7923.747 (0.599395)
MLOANS	9.934037 (3.226853)***	9.919356 2.296990**	9.919356 (2.369521)***
R ²	0.888182	0.894417	0.894417
Adj. R ²	0.838486	0.819000	0.819000
F Statistic	17.87204	11.85968	11.85968
D Watson	1.893613	2.097776	2.097776
Ar(1)		-.01	-.01
Observations	14	14	14

Dependent variable is GCFC

Regression estimates: *t* statistics are in parentheses. ***, **, * denote significance at 1, 5 and 10 percent levels respectively

Source: Computed by Authors

Table 4 Regression Estimates of the NHF Mortgage loans

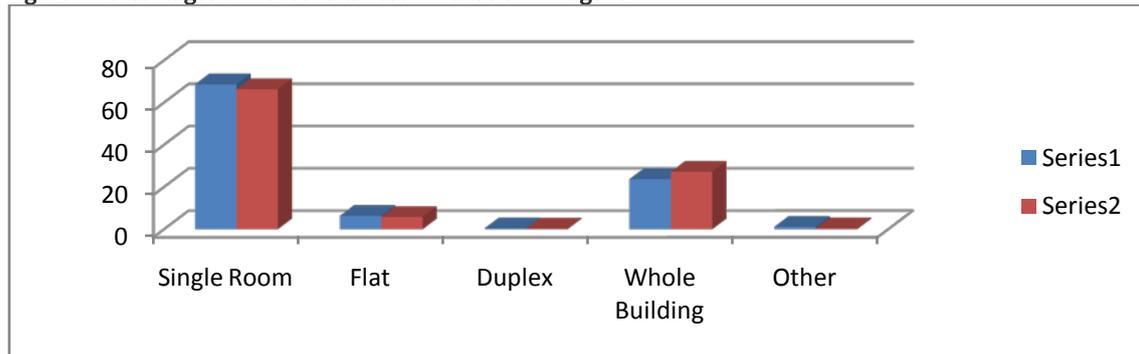
Variable	Equations 1	Equation2
Constant	529466.2	741098.3
	0.594857	0.826778
INSMTL	18.28348	14.78983
	(2.726419)***	1.748191
KAEXPD	-24465.19	-28195.15
	(-0.775381)	-0.846013
LRATE	-1885.272	4163.879
	(-0.047475)	-0.103706
NHFL	278.7966	198.8753
	(1.635147)	0.647050
Ar(1)		.40
R ²	0.814055	0.827488
Adj. R ²	0.731413	0.704264
F Statistic	9.850340	6.715358
DW	1.571569	1.699018
Observations	14	14

Dependent variable is GFCF

Regression estimates: t statistics are in parentheses. ***, **, * denote significance at 1, 5 and 10 percent levels respectively

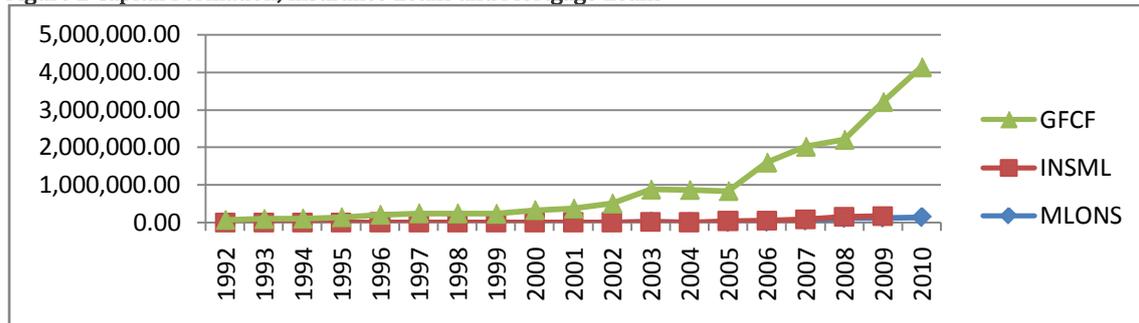
Source: Computed by Authors

Figure 1 Percentages of Household Accommodation in Nigeria



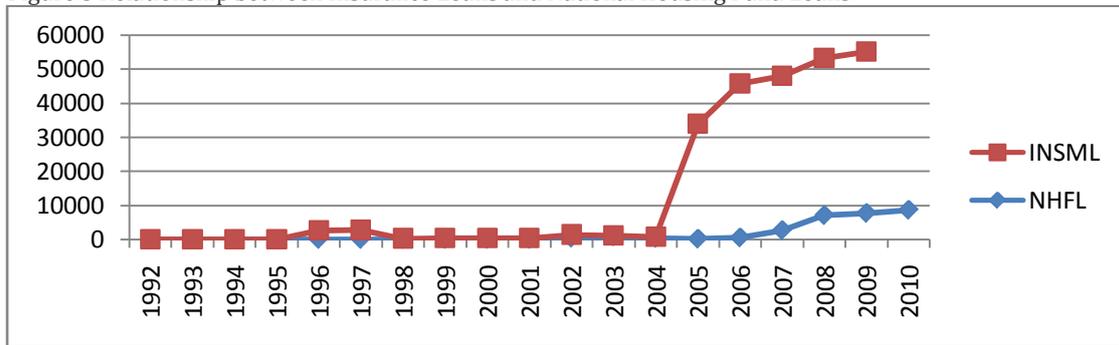
Source: National Bureau of Statistics 2009

Figure 2 Capital Formation, Insurance Loans and Mortgage Loans



Source: Authors Compilation

Figure 3 Relationship between Insurance Loans and National Housing Fund Loans



Source: Authors Compilation