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Subject: **Editorial Decision on Your Manuscript.**

Dear Adetiloye,

Thank you for submitting the manuscript entitled **"The National Housing Fund, Mortgage Finance and Capital Formation in Nigeria."** The review procedures of your manuscript have been completed. Summary of the review report has been attached herewith. The editorial board is pleased to accept your paper for the upcoming issue of the journal, **provided that you fulfill the necessary requirements including necessary modifications (Please see page 2) by May 20, 2013**.

We look forward to publishing your work in the Journal.

Sincerely yours,

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

By

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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 housing stock in the economy.

The National Housing Fund, Mortgage Finance and Capital Formation in Nigeria

1.0 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 it is considerably less in Nigeria. Housing being a significant aspect the total capital formation in the economy has lagged behind in the process of aggregation capital stock for the economy. The National Housing Fund (sometimes referred to as NHF of the Fund) the vehicle through which the government intended that funds should be aggregated specifically for housing development and construction by Nigerians and firms developing housing units for accommodation purposes. As a government initiative and agency, its performance and output in its main target area has remained obscure two decades after its establishment. With the current practises there does not seem to be any likely improvement in the performance and the output of the agency.

The only pass-through method that the NHF can impact the housing industry, its delivery, or sector is through on-lending of the resources at its disposal to mortgage loan applicants seeking such assistance in the their 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 where the low income earner cannot have a comfortable housing. An estimate of the annual requirements for Lagos city alone is a staggering 224,000 units (CityScape, 2009) which the total national infrastructure cannot provide even if all the attention were focused on it alone - except by God. The need for finance to meet the requirements of housing for Nigerians cannot be overemphasized in the present circumstance.

There have been constant failures on the part of the government plans and programmes on housing in Nigeria. For instance it delivered 1024 only when it planned to build a total of 121,000 units (Ajanlekoko, 2001). The numbers of the on-lenders - the Primary Mortgage Institutions (PMIs) licensed to lend to mortgage applicants rose to a high of 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). In addition, the government has failed to have a plan or programme for the housing sector. 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 The National Housing Fund

Government Sponsored Enterprises (GSE) like the National Housing Fund (NHF or the Fund) is expected to expedite development plans and move the focus of governments to their desired objectives. Once goals are established for the GSE, it becomes easy to find direction. 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 relying on the legal instrument creating it to achieve the objectives by itself. For more than two decades of establishment, the Fund has not been re-evaluated to see if the objectives are being met.

Adedokun, Akinradewo, Adegoke, and Abiola-Falemu (2011) believes some 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 and a wide disparity is observed 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, neither are there incentives for new PMIs to enter the market. The Fund has faced various problems ranging lack of 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 Fund has not been successful in its twenty years of operations in spite of the contributions it has received from the public, but has failed in rising to the challenge of aiding Nigerians to owning their own accommodation (EFinA 2010). The government has not aided the Fund, neither has it enabled it to enforce compliance of the laws that 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 problems of the Fund have revolved around credibility that arises 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..

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 represents a sizeable proportion of domestic financial market because of the relative long term structure of mortgage. 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. Affordability problems seem to be one of the problems faced by the intending mortgagor while paucity of long term finance is another plaguing the market. Just as in MENA countries many more persons would be interested in mortgage loans if they could afford the cost (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 while opportunity for prepayment usually enhances the performance of mortgages. A fundamental problem of mortgage and housing finance in Nigeria remains the Land Use Decree 1978 (EFinA, 2009) which has made acquisition of title on land a near impossibility. The problems are grouped among others as inflation, land acquisitions and documentation, insufficient capital base for the PMIs. Financial constraints for 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 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 can be important in poverty reduction, growth and general economic development of the country.

The mortgage sub-sector of the financial system developed more rapidly with the oncoming of the universal banking that the country practiced between 2000 and 2010 and was more pronounced especially after the banking recapitalizations of 2004 - 2006. This enabled the banks to expand their subsidiaries which according to the new structure now either has to be diversified away or maintained in a holding company. Thus the PMIs were strengthen and were able to lend more for mortgage purposes. In addition, 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 after partnering with construction firms. Examples of these are (a) Abbey

Building Society plc (b) Union Homes plc (c) Resort Mortgage plc. In this way, the public quotation of their stocks has been advantageous. Noticeable 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 it 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 over the past year – 2010, was merely ₦1 billion (about $6.3 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 African countries as they have continued to lag behind in most of the Human Development Indices (HDI) and the acquisition of capital goods that improve life and make business efficient. While public sector spending 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. The usefulness of capital formation in the process of measuring the GDP cannot be overemphasized especially in the productivity of businesses.

Equally, the rate of gross real investment in Nigeria on housing has reduced for of lack of sufficient finance which theoretically should propel further investment on ancillary sectors such as building materials. Investment in national infrastructure in itself has affected the quantum of capital formation. The neglect of the infrastructural development has lead to increases in poor performance of macroeconomic indices that further leads to poverty for the people (Charterjee and Morshed, 2008). The need for the study of the effects of provision and otherwise of good housing has arisen given its multiplicative effects on the economic welfare. Gross public investment focuses mainly on infrastructure, either by way of addition or rehabilitations. 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, household savings is not the only way to generate investments in the economy (Moore, 2006) as it may not be immediate to the creation of further capital. Governments by their autonomous investments,

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influence the direction of other investments by crowding them in as desired. Equally, they also crowd out investment through their use of deficit financing and other fiscal expansion methods thereby reducing investment in other sectors (Heim, 2008).

The private sector has made undeniable 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 various banks have all supported construction of properties either for residential or commercial accommodation purposes or for some other productive and profitable use. 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.

3.0 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 or is missing. 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 technique of two stage least squares is employed to investigate the impact of the Fund in the market. 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 is abstracted from the compounded aggregates of Abbey Building Society 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 is obtained from the National Insurance Commission NAICOM. Variables used in this study are measured from 1981 to 2010. Some of the variables had yearly data for the period, while other had had much less. Available and useable variables were truncated to 14 years.

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

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The Two Stage Least Squares *(2SLS)* is adopted to deal with 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

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reduces the maximisation of the results of an OLS. The two 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. 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 the heteroskedaciticity.

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 model building, according to Oczkowski (2003), proceeds as follows:

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

where y is the dependent

$$\eta_I = \beta_0 + \beta_I + \zeta_I + \varepsilon_I \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

Instruments are either the same number of χes or more. Variables can be instruments and predicators at the same time

$$y_I = \eta_I + \zeta_I \qquad \chi_I = \zeta_I + \delta_I \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

$$y_I = \beta_0 + \beta_I + \chi_I + \varepsilon \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

explicitly the model translate to

$$Gfcf\ f\ mlons\ lrate\ kaexpd \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(5)$$

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

where *GFCF, MLOANS, LRATE, KAEXPD* represent capital formation, mortgage loans, 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 the respective tables reporting the results.

4.0 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%. This is the reason for 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 became significant in 2004 and the NHF operations became obvious in 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 as a result of primordial factors and corruption. Capital investment by the government delivers little capital value. 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 for 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 *apriori* 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 a 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 *apriori* expectation with negative impact on capital formation in the economy

5.0 Recommendation and Conclusions
The results do not show that the current situation is optima neither does it show that better sectoral performance cannot be achieved. In actual sense 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 scrap 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 discuses 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 higher level of success.

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Tables and Figures
Table 1   Descriptives of the Data Used In the Study

Statistics	GCFC	INSMLOAN	KAEXPD	LRATE	NHFL	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

	17883388	225927.4	218.6000	532.0300	20125.00	442491.5
Dev.	2.79E+13	5.99E+09	322.5483	787.9779	95020415	3.52E+10
tions	30	14	29	30	18	19

Authors' data and Eviews

Table 2 Regression Estimates of the Mortgage loans without NHF

riable	Equations 1	Equation 2 ar (1)	Equation 3 ar(1) ARHC
nstant	394639.1	414632.6	414632.6
	(0.572417)	0.542561	(1.304936)
SMLOAN	16.25521	15.41623	15.41623
	(3.143602)***	2.771836***	(2.318661)**
AEXPD	-25824.51	-25824.51	29086.86
	(-1.058286)	-1.058286	(-1.690704)*
RATE	6021.976	7923.747	7923.747
	(0.194903)	0.232179	(0.599395)
LOANS	9.934037	9.919356	9.919356
	(3.226853)***	2.296990**	(2.369521)***
	0.888182	0.894417	0.894417
lj. R^2	0.838486	**0.819000**	0.819000
Statistic	17.87204	11.85968	11.85968
Watson	1.893613	2.097776	2.097776
r(1)		-.01	-.01
bservations	14	14	14

t variable is GFCF

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

Authors' data and Eviews

Table 3 Regression Estimates of the NHF Mortgage loans

Variable	Equation 1	Equation 2
Constant	529466.2	741098.3
	0.594857	0.826778
INSMLOAN	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

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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

t variable is GFCF

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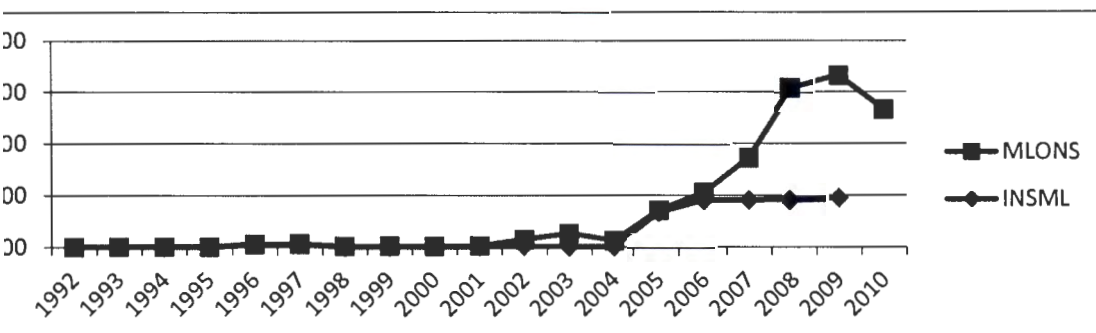   percent levels respectively

Authors' data and Eviews

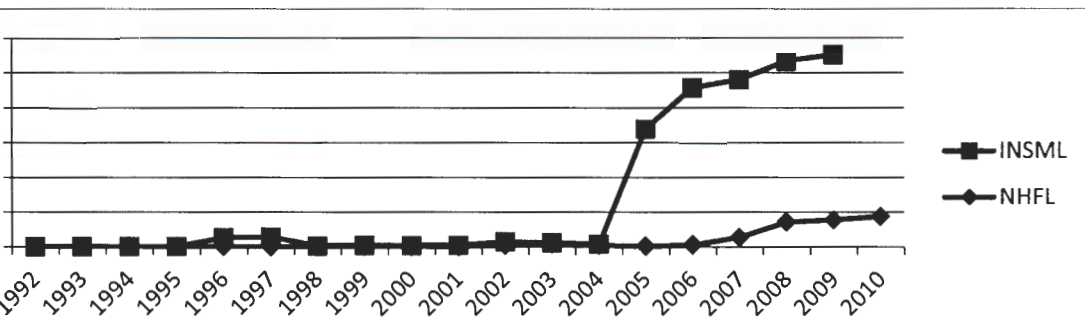Capital Formation, Insurance Loans and Mortgage Loans
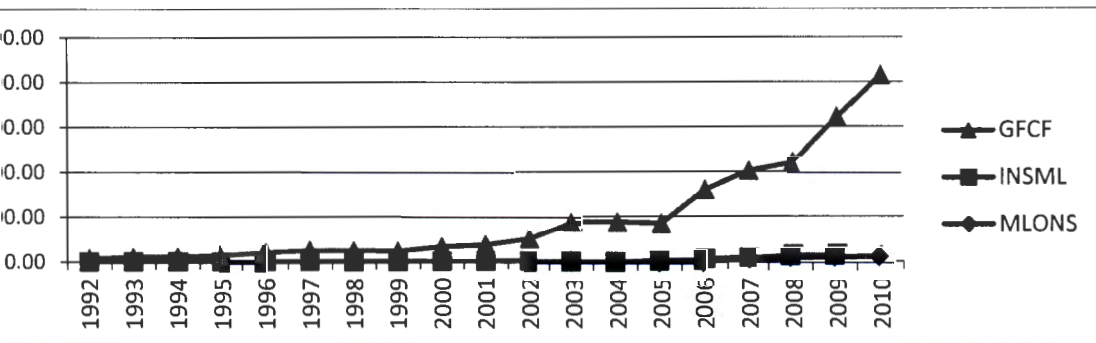
Authors Compilation

Relationship between Insurance Loans and Mortgage Loans

Authors Compilation

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Relationships between Insurance Loans and National Housing Fund Loans

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