The Development Of Mortgage Finance In Nigeria And Its Impact On The Economy

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Abstract - This study examines the development of mortgage finance in Nigeria and its impact on economic growth. Aggregate housing finance data for by both banks and non-financial institutions was used to measure housing finance. Other variables considered include financial debt proxy by M_2Per capita, financial instability proxy Interest rate and the level of development of the capital market measured by market capitalization. Time series data covering the period 1990-2016 was obtained from Central Bank statistical bulletin, National Bureau of Statistic and World Bank. The methodology adopted in the study is Vector Autoregressive Model (VAR) was estimated using linear regression method. The results of the analysis indicated that there is a one-way causal link runs from mortgage finance to economic growth. In addition, mortgage finance was found to be a significant determinant of increasing pattern of economic growth over a long period of time. Due to the level of the country's financial depth, it was recommended that Nigerian government should intensify effort aimed at consolidating the level of financial re-structuring in the non-financial sector which mortgage financing belong. The central bank should make a policy stipulating commercial banks to set aside certain proportion of their total assets to finance housing demands.

Keywords—Mortgage Finance, Economic growth, Vector Autoregressive

I. INTRODUCTION

In the beginning, mortgage was just a conveyance of land for a fee. The buyer paid the seller a set rate, with no interest, and the seller would sign over the land to the buyer. According to Clayton (2007), the classical form of real estate debt is the mortgage, a loan secured by real property as collateral. The word mortgage, Clayton added comes from two Middle English words (which are actually French in origin): "mort" referred to death or dying while "gage" means an obligation or commitment. Hence mortgage was a "dying commitment" that is, a commitment that was not permanent but had a finite lifetime.

During the medieval period, land was the direct source of most wealth, as a pledge of real property was the guarantee to secure mortgage. This old arrangement in the view of (Barker, 2006) was however very lopsided in that the seller of the property, or the lender who was holding the deed to the land, had absolute power over it and could do whatever they liked, which included selling it, not allowing payment, refusing payoff, and other issues which caused major problems for the buyer, who held no ground at all. According to Onibokun (1985) and Nubi (2002), habitable housing contributes to the health, efficiency, social behaviour and general welfare of the populace. Apart from providing man with shelter and security, housing plays a major role in serving as an asset (Poole, 2003; Alhashimi and Dwyer, 2004).

For a typical house-owner, the house is a major asset in his portfolio and for many household, the purchase of a house represents the largest (and often only) lifelong investment and a store of wealth (Goodman, 1989; Malpezzi, 1999; Bundick and Sellon Jr, 2007). Furthermore, Bardhan and Edelstein (2008) argued that housing represent a large proportion of a household's expenditure and takes up a substantial part of lifetime income. The provision of housing services depends mostly upon a well-functioning housing finance system. The consideration of acquiring a house is driven by the cost of acquisition and various government economic policies which could be fiscal or monetary (Giussani and Hadjimatheou, 1991) and even depending on the economic system adopted in a country.

Housing is one of the three basic needs of mankind and it is the most important for the physical survival of man after the

provisions of food. Decent housing is one of the basic needs of every individual, the family and the community in general. As a pre-requisite to the survival of man, it ranks second only to food. It is also one of the best indicators of a person's standard of living and his place in the society. The house an individual lives in is a symbol of his status, a measure of this achievement and social acceptance, an expression of his personality and the barometer that seems to indicate in a large measure, the way the individual perceives himself and how he is perceived by the larger society. It is the measure of all the good (or bad) things in life that will come to him and his family (Agboola, 1995).

The current savings culture in Nigeria is geared towards immediate short term needs based on composite saving pattern (Soludo, 2007), hence financial institutions need to develop attractive long term savings products that will be consistent with long term mortgage finance nature. It has also been revealed that one of the major challenges facing housing financing system in Nigeria is the mismatch which currently exists between sources and application of fund in the sector.

With the financial sector reform in 2004, primary mortgage in Nigeria has improved in terms of availability, institutional framework and competition. The housing sector has also seen the debut of institutional property developers with complementary mortgage backups. But the absence of effective secondary mortgage to keep refinancing mortgage raises the question of sustainability of progress in the sector.

The Central Bank of Nigeria (CBN) has further observed that the amount of investible funds available to the existing primary mortgage institutions was a mere N36.7 billion, and only N22 billion or 60% of this amount stand a reasonable chance of being channeled for mortgage loans origination. Furthermore, the supply of credit by the Federal Mortgage Bank of Nigeria (FMBN) was grossly inadequate to meet the growing demand. As at end September 2000, FMBN mobilized a total of N5.8 billion from 1.8 million contributors to the National Housing Fund (NHF) while it granted N375 million loans to 631 contributors through 20 PMIs for the construction of houses. Overall, there is evidence of declining activities in housing finance generally (Sanusi, 2003).

With an estimated population of 170 million, Nigeria's housing deficit is glaring, particularly in the urban centres. The FMBN estimates the housing deficit at 16 million housing units, requiring over N56 trillion to finance at a conservative N3.5 million per unit. This means that, Nigeria needs to produce about 800,000 housing units annually for the next 20 years, in order to close her housing gap (Suleiman, 2014). Data from the Federal Housing Authority (FHA) shows that it has built only 30,000 housing units between 1973 and 2006. It is therefore obvious that there is a critical housing gap in Nigeria. This puts into perspective the market for mortgage finance in the country and the immense potential for mortgage banking. Despite this huge potential, the Nigerian Mortgage Banking Industry remains relatively underdeveloped and has failed to contribute significantly to closing the country's housing deficit. One of the main reasons for this is that the industry lacks the financial capacity to meet the country's mortgage requirements. The Nigerian mortgage banking industry has a remarkable developmental impact, both in terms of providing affordable housing and in promoting economic development. However, mortgage penetration remains low, standing at less than 1% of GDP in 2010. This level of penetration is lower than estimated rates in other select emerging markets and continues to provide opportunities for growth for current and potential players (Agusto, 2011).

According to Global Findex (2014), between 2011 and 2014, access to finance grew from 30 percent to 44 percent. The increase has been driven by growth in payments; however there has been a significant lag in the impact on access to bank loans – two percent in 2011 to five percent in 2014. Mortgage finance is still a small percentage of Nigeria's GDP, at 0.58 percent – in comparison to the UK (80 percent), USA (77 percent), and South Africa (31 percent). It is clear that the mortgage finance industry in Nigeria is still in its infancy, primarily targeting middle income earners and largely excluding low income earners. The Federal and State

government are consciously trying to bridge this gap through initiatives and funds – focusing on affordable and mass housing schemes, and to improve accessibility to mortgage finance (Centre for Affordable Housing Finance, 2016).

A major area of concern has been mortgage financing, which has often been fingered as one of the most formidable constraints in the housing sector. It is based on this that this paper seeks to ask the following questions:

i. What is the relationship between financial development and mortgage finance in Nigeria?

ii. What is the impact of mortgage finance on economic growth in Nigeria?

II. LITERATURE REVIEW

Mortgage finance is a major factor determining the quality and tenure of housing consumption, the overall financial portfolio of the public and the stability and effectiveness of the financial system. A well-functioning mortgage market is considered by Jaffee and Renaud (1996), to have large external benefits to the domiciled national economy like contribution to economic growth and improved standards of living. With the absence of a well-functioning housing finance system, a market-based provision of housing would therefore be lacking.

Like stock exchange market, Mortgage market is divided into primary and secondary market. According to Ojo (2009), Primary Mortgage Market is a market where all the mortgage loans are originated. The market is a place where the mortgage originators and as well as the borrowers come together to set the mortgage deal and negotiate the terms and conditions regarding that deal. The credit unions, mortgage brokers, banks and mortgage bankers among others are the part of primary mortgage market. The development of a primary mortgage market depends upon macroeconomic stability of the nation. However, primary mortgage market plays an important role behind the development of a successful secondary mortgage market. The secondary mortgage market on its part, loans and servicing rights are traded between the mortgage securitizers, mortgage originators and investors.

Secondary Mortgage Market (SMM) owning to the shortfall of Primary Mortgage Institutions (PMIs), the introduction of Secondary Mortgage Market (SMM) may solve the problems that have impeded the operational functions of PMIs. For housing finance to be successful, continuous flow of funds must be guaranteed. SMMs are a mean to an end. The end is to increase the flow of funds housing. Therefore, a secondary market provides the means to accomplish this end by bringing together the originators of mortgage loans with the ultimate investors. It does this by developing new instruments and institutions that can lower the risks of mortgage lending for originators and provided them with new funding outlets. The mechanism of capital mobilization through mortgage securitization as found in advanced economies like the US, Germany, France, Italy, and others will serve as a potent driver of real estate growth and housing finance in Nigeria. Similar examples are obtainable in Asia, where the National Housing Fund thrives on, not only the deposit subscriptions, but also on housing bonds issued by the Housing Bank to finance housing development programmes (Ojo, 2009).

According to Lea (1999), a successful secondary market is based on effective management of the basic functions and risks involved in mortgage lending regardless of the institutional entities involved or what separation of functions existing in the market. Lea is also of the view, that the degree of competition in the primary market may have a major bearing on the readiness of lenders to participate in a secondary market.

The quality of mortgages produced by the primary market becomes much more important in a secondary mortgage market. The SMM separates the act of making mortgage loans from the act of holding mortgage loans. The mortgage holding function is the strategic focus for dealing with the risks of mortgage lending (Jaffee and Renaud, 1996). According to them, the basic principle of SMM is to tap capital market investor as the long-term source for the mortgage market, thus mitigating risks of interest rate and credit risk. The bond market can be a veritable sector to further strengthen the SMM in Nigeria.

Altman and Saunders (1998) highlighted the array of information on various borrowers' details to include their character (reputation), capital (leverage), capacity (volatility of earnings) and collateral. However, Mints (2006) limited the borrowers required information to "the three C's of lending" which are collateral factor, capacity factor and credit factor, which are all relevant to lending in both since house purchases typically involve household borrowing, house prices are likely to be strongly driven by credit conditions and household leverage.

Wolswijk (2005) analyzed some fiscal aspects of mortgage debt in the EU. It first describes the main fiscal instruments that governments use to affect mortgage-financed home-ownership. A study of 15 European Union (EU) countries using pool regression analysis found that the growth of outstanding mortgages as a percentage of GDP was positively affected by deregulation measures across the financial sector, as well as by stock market growth. Other variables like household income and inflation are less significant. He concluded that the role of structural fiscal measures in reducing housing market volatility is highlighted.

Okidim and Ellah (2013) examined the enhancement of economic growth through mortgage financing and capitalization. The study used time series data between 1992 to 2010 and the data were analyzed using ordinary least square (OLS) regression analyses and t-test. The result from the t-test showed that there was no significant relationship between mortgage finance and economic growth in Nigeria. The study therefore recommends that there should be proper application of mortgage financing because a mortgage lending which is not well coordinated will destabilize the economic growth.

Nwamara and Aronu (2014) investigated the impact of economic development on land mortgage financing in Nigeria the case of Delta State. The study used five (5) variables which include Gross Domestic Product (GDP), Money in Circulation (MC), Lending Rate (LR), headline inflation rate (HI) and Core inflation rate (CI). The methodology employed was multiple regression analysis. The result of the study revealed that the independent variables were able to explain most behaviour of the dependent variable (number of land mortgage transaction) within the observed period. It was also found that the explanatory factors contributed to the model significantly. In addition, it was observed that the factors responsible for the significant contribution were variable year and lending rate. However, variables such as Gross domestic product (GDP), volume of Money in circulation (MC), Headline Inflation (HI) and Core Inflation (CI) did not contribute significantly to the characteristics of land mortgage transaction in Delta state. It was observed that as land mortgage transaction increases lending rate decreases by 20.76 coefficient measure.

III. THEORETICAL FRAMEWORK AND METHODOLOGY

The theory underpinning this paper is anchored on the theoretical arguments of the classical and neoclassical economic postulations, which are summarized in the studies carried out by Goldsmith (1969); McKinnon (1973) and Shaw (1973). They postulated that financial development has a strong correlation with growth. The classical school argues that under the assumption of a well-functioning market, financial liberation enhances efficiency in resource allocation, promotes competition which results in competitive prices for goods.

A. Model Specification

On the basis of the theoretical framework adopted from the work of Renaud (2004), Vector Autoregressive (VAR) Model has been adopted to examine the relationship between the mortgage finance and economic growth.

The VAR equation is explicitly represented as:

$$GDPCC_t = \alpha_{1t} + \sum_{j=1}^{k} \phi_{1j} GDPPC_{t-j} + \sum_{j=1}^{k} \beta_{1j} M2PC_{t-j} + \sum_{j=1}^{k} \lambda_{1j} INTR_{t-j} + \sum_{j=1}^{k} \theta_{1j} SEMC_{t-j} + \sum_{j=1}^{k} \delta_{1j} HFBI_{t-j} + U_{1t}$$

$$M2PC_t = \alpha_{2t} + \sum_{j=1}^{k} \phi_{2j} GDPPC_{t-j} + \sum_{j=1}^{k} \beta_{2j} M2PC_{t-j} + \sum_{j=1}^{k} \lambda_{2j} INTR_{t-j} + \sum_{j=1}^{k} \theta_{2j} SEMC_{t-j} + \sum_{j=1}^{k} \delta_{2j} HFBI_{t-j} + U_{2t}$$

$$INTR_t = \alpha_{3t} + \sum_{j=1}^{k} \phi_{3j} GDPPC_{t-j} + \sum_{j=1}^{k} \beta_{3j} M2PC_{t-j} + \sum_{j=1}^{k} \lambda_{3j} INTR_{t-j} + \sum_{j=1}^{k} \theta_{3j} SEMC_{t-j} + \sum_{j=1}^{k} \delta_{3j} HFBI_{t-j} + U_{3t}$$

$$SEMC_t = \alpha_{4t} + \sum_{j=1}^{k} \phi_{4j} GDPPC_{t-j} + \sum_{j=1}^{k} \beta_{4j} M2PC_{t-j} + \sum_{j=1}^{k} \lambda_{4j} INTR_{t-j} + \sum_{j=1}^{k} \theta_{4j} SEMC_{t-j} + \sum_{j=1}^{k} \delta_{4j} HFBI_{t-j} + U_{4t}$$

$$HFBI_t = \alpha_{5t} + \sum_{j=1}^{k} \phi_{5js} GDPPC_{t-j} + \sum_{j=1}^{k} \beta_{5j} M2PC_{t-j} + \sum_{j=1}^{k} \lambda_{5j} INTR_{t-j} + \sum_{j=1}^{k} \theta_{5j} SEMC_{t-j} + \sum_{j=1}^{k} \delta_{5j} HFBI_{t-j} + U_{5t}$$

IV. Discussion of Results

This section will present some explanations on the tests conducted in the study ranging from simple specification/diagnostic tests, normality test, Granger causality tests, and Lag Order selection criteria test. Data on the selected variables are presented below. Time series data on Gross Domestic Product per capita (GDPpc), broad money supply per capita as a measures of financial depth (M_2PC), interest rate as a proxy for macroeconomic instability (INTR), Stock exchange market capitalization (SEMC) and aggregate housing finance by both banking and non-banking institutions (HFBI) for the period 1990-2016 are hereby presented for descriptive analysis purpose.

Table I: Descriptive Statistics

	GDPPC	M2PC	INTR	SEMC	HFBI
Mean	781.4783	20.17391	19.36478	3437.170	32676.65
Median	378.0000	19.80000	18.32000	662.5000	2100.000
Maximum	2722.000	31.70000	29.80000	14800.90	132876.1
Minimum	153.0000	15.50000	13.54000	16.30000	208.9000
Std. Dev.	766.1065	3.763970	3.546442	4750.437	51356.50
Skewness	1.519628	1.358990	1.231165	1.193890	1.164619
Kurtosis	4.070511	4.885245	4.782523	2.980266	2.474655
Jarque-Bera	9.950439	10.48567	8.855435	5.464308	4.988666
Probability	0.006907	0.005285	0.011942	0.065079	0.082551
Sum	17974.00	464.0000	445.3900	79054.90	686209.7
Sum Sq. Dev.	12912222	311.6843	276.6996	4.96E+10	5.27E+10
Observations	25	25	25	25	25

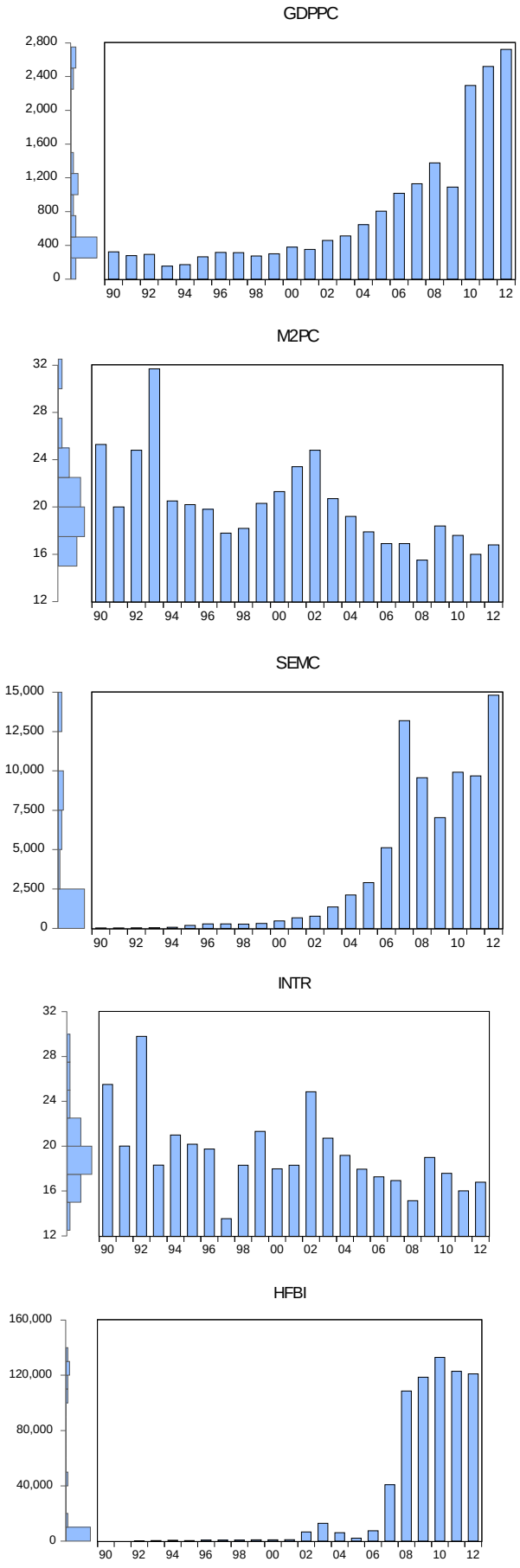

Figure I: Histogram of the Selected Macroeconomic and Financial Indicators.

The results of the descriptive statistics above describe the nature of the distribution for the selected macroeconomic and commercial banks activities variables. Knowing the distribution of the variables is important as some statistical methods of analysis presupposes that data confirms to certain distribution. For instance, the Pearson's Correlation analysis which is one of the methods used in analyzing the data of the study presupposes that our data sets should be normally distributed with zero mean and constant variance.

Using descriptive statistics results presented above, normality of our data sets can be determined with the aid of Jarque-Berra statistics (JBS). The statistics assumes that the series of a data set is normally distributed. Probability value for Jarque-Berra (JB) is used to determine whether the estimated JBS is statistically significant or not. A statistical significant implies rejection of the null hypothesis which in the light of JBS means that our data set is not normally distributed. Statistical significance is concluded where probability value is less than 1%, 5%, or 10% level of significance at which the test is conducted. As for the data sets above, all the data sets are not approximated normally distributed at various levels of significance. The implication of this result is that we cannot use Z-statistic to test the statistical significance of relevant estimated coefficients of the non-normally distributed series. However, we can avoid the limitation pose by the outcome of this test by using student t-test to test for statistical significance as the t-statistic has been prove by the Central Limit theorem to be robust even in small sample sizes (Odama, 2009).

A. Stationarity Test

It is conventional to carryout stationarity test to ascertain the behaviour of time series variables by examining whether they are influenced by time. Where this occur, they are normally subjected to 'detrending', that is, removing the influence of time from time series data. The point at which they are free from time influence is examined using Augmented Dickey-fuller test. This exercise is carried out as follow:

Table II: Summary of Stationarity Test

Variables	ADFT	I(D)
GDPpc	-5.090997	I(1)
M2PC	-5.779202	I(1)
Log INTR	-5.808661	I(1)
SEMC	-4.640732	I(1)
HSBI	-3.526235	I(1)
5% CRITICAL LEVEL		
LEVEL	-3.9591	
1st Difference	-3.0989	
2nd Difference	-3.1199	

Source: Author's Computation

From table II, it is evident that all the variables are not stationary at level. However, ADF test confirms that we can reject the null hypothesis of non-Stationarity in the series after first difference. The uniform level at which the series of the variable sets become stationary implies that we can conduct a Johansen test of long run relationship between the series when they are combined at a parallel level.

In the main time, it is informative to note that since the variables are confirmed to be non-stationary, they are prone to generating unreliable results. This is particularly true as Granger and Newbold (1974) have argued that a regression result involving two (or more) non-stationary time series variables could produce spurious or nonsensical results. That is, such result could show significant relationship between the variables where indeed such relationship exist as a result of chance. To ensure that a stable and reasonable relationship exists between our selected variables, Johansen test of co-integration is carried out as follows:

B. Co-integration Test

Table III: Results of Co-integration Test

Series: GDPpc M_2PC INTR SEMC HFBI

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.921854	123.6047	69.81889	0.0000
At most 1 *	0.841204	75.17041	47.85613	0.0000
At most 2 *	0.732781	40.20781	29.79707	0.0022
At most 3	0.462805	15.13377	15.49471	0.0566
At most 4	0.160644	3.327286	3.841466	0.0681
Trace test indicates 5 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: Author's Computation

To consider the hypothesis that the variables are not co-integrated (r=0) against the alternative of one or more co-integrating vectors (r>0), we have to look at the value of

λTRACE. Column 3 of the first part of Table 4.3 indicates the value of λTRACE equal to each number of the co-integrating vector: λTRACE (0) = 161.31, λTRACE (1) = 78.61, λTRACE (2) = 18.84 and λTRACE (3) = 1.831 Since the value of λTRACE (2) exceeds the critical value (15.495) at the 0.05 significance level, we can reject the null hypothesis of two co-integrating vectors (r=2) and accept the alternative hypothesis of more than two co-integrating vectors (r>2) at the 0.05 level. Because the value of λTRACE (3) is less than the critical value (3.841) at the 0.05 level, we cannot reject the null hypothesis of $r \leq 3$ and reject the alternative hypothesis of four or more co-integrating vectors at the 0.05 level. If we consider the hypothesis that the variables are not co-integrated (r=3) against the alternative of three co-integrating vectors (r=4), we need to look at the λMAX. Column 3 of the second part of Table III indicates the values of λMAX (0), λMAX(1), λMAX(2) and λMAX(3) are 82.69, 59.76, 17.01 and 1.83, respectively. The test of the null hypothesis r=3 against the specific

The Granger Causality/Block Exogeneity Wald (GCBEW) test suggests that the five variables—GDPPC, and HFBI are not exogenous to the VAR model, because the P-values of the joint test for the GDPPC, and HFBI equations are 0.0000 and 0.0000 respectively. However, the results of GCBEW test suggest that the other three variables are exogenous to the VAR model their P-values of the joint tests for the M_2PC, INTR, and SEMC equations are 0.4735, 0.1702 and 0.1195 respectively.

The test also provides evidence that we can reject the null hypothesis of excluding some of the variables while retaining the null hypothesis of excluding some others. We succeed to reject the null hypothesis of excluding SEMC and HFBI from the GDPPC equation at one percent (1%); INTR from the M_2PC equation at ten percent; and GDPPC and SEMC from the HFBI equation at 5% and 1% level of significance respectively. We however fail to reject the null hypothesis of excluding M_2PC and INTR from the GDPPC equation; all the remaining four variables (GDPPC, INTR, SEMC & HFBI); GDPPC, SEMC and HSBI from the INTR equation; all the remaining four variables (GDPPC, M_2PC, INTR & HFBI) from the SEMC equation; and M_2PC and INTR from the HFBI equation. This decision is based on P-value that is at most greater than 0.1.

The outcome of the GCBEW test is that the excluded variables do not cause significant changes in their host equation's present values. In other words, they do not significantly determine significantly, changes in the dependent variables where they appeared. For instance, in the equation where GDPPC is the dependent variable, M2PC and INTR are not significant determinants of changes in the present values of GDPPC. Conversely, those not excluded do provide significant explanation for the changes in the present values of their host equation. This test provides some reason to believe that there are bidirectional causalities between GDPPC and HFBI. In addition, there are unidirectional causalities running from SEMC to GDPPC, SEMC to HSBI and M_2PC to INTR.

It appears as if the HFBI has stronger causality impact on GDPPC than GDPPC causality impact on HFBI. But the unidirectional causality running from SEMC to HFBI on the one hand and to GDPPC on the other is strong. It is important, however, to compare the outcome of the GCBEW test with those from the impulse response function and the variance decomposition. However, the GCBEW test does not provide information about the direction of the impact, nor the relative importance between variables that simultaneously influence each other. For instance, while GDPPC and HFBI simultaneously influence each other, it is not clear the direction of the impact both variables have on each other. Again, the relative importance of the impact of GDPPC and SEMC on HFBI cannot be determined both in direction and in magnitude.

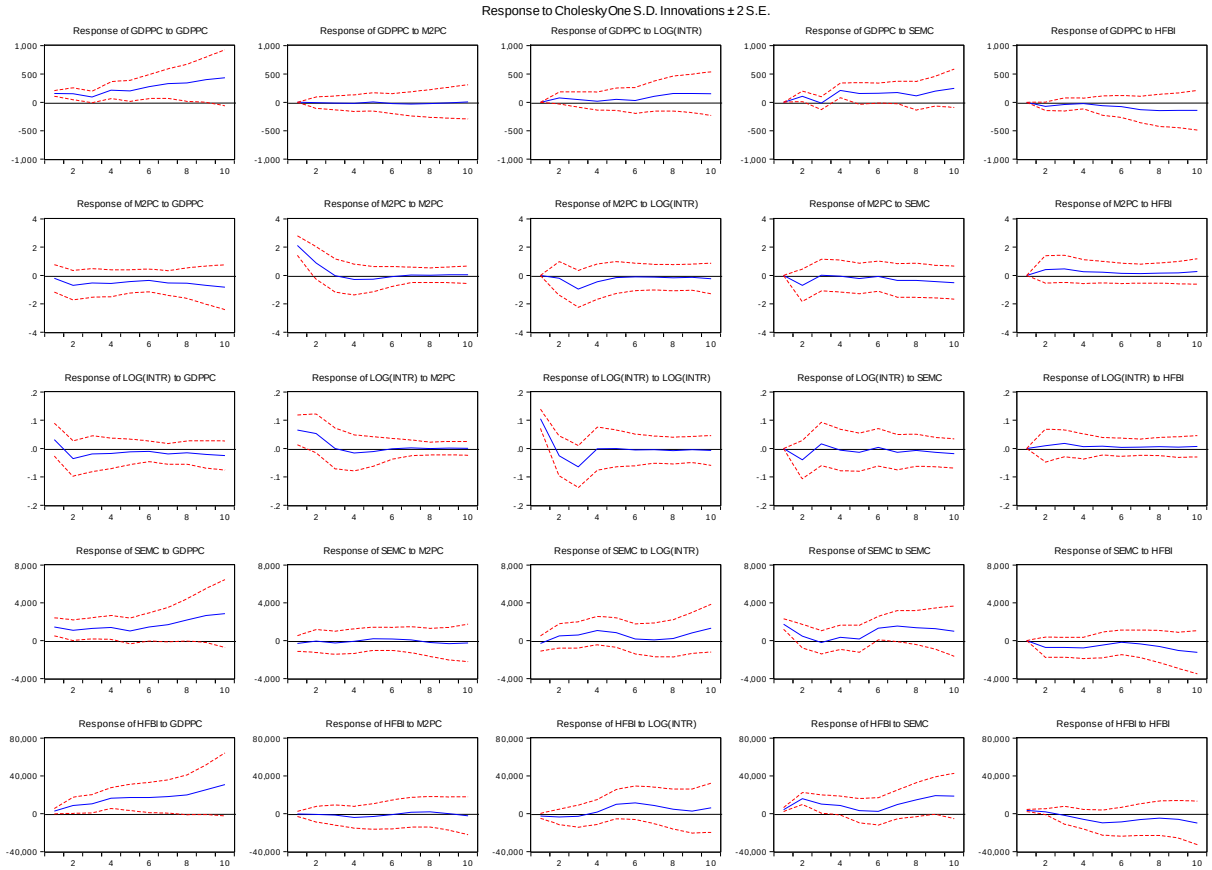

Figure II: Impulse Response Function

Figure (II) exhibits the generalized asymptotic impulse response function. It includes 25 small figures which are arranged in rows. Each row illustrates the dynamic response of each target variable (GDPPC, M_2PC, INTR, SEMC, & HFBI) to a one-standard-deviation shock on itself and other variables. In each figure, the horizontal axis presents the ten years following the shock. The vertical axis measures the unit impact of the shock on each endogenous variable. Only valid figures as indicated by GCBEW test will be analyzed. It presents the long-run negative effect on GDPPC on GDPPC. It appears to have a significantly positive effect on GDPPC over time. A shock on GDPPC on HFBI has a significantly negative effect. After slightly decreasing, HFBI returns to its pre-shock level after two years. Thereafter, it reduces very slightly over time. M_2PC has a significant negative effect shock on INTR. INTR decreases within the first two years before returning to its pre-shock level; after which INTR stays at its pre-shock level over time. Shock to SEMC has a slight positive effect on GDPPC up to the first five years, before becoming significantly apparent after the first five years. However, shock to SEMC on HFBI is has a negative effect. It was negative on HFBI at the beginning of the shock up to the first five years, before returning to its pre-shock level; after that remain negative over time. Unlike shock to GDPPC on HFBI, that to HFBI on GDPPC has a significant positive effect on GDPPC throughout the period of observation. In addition, shock to HFBI on HFBI has a significant negative effect on HFBI throughout the period of observation.

The results of variance decomposition of each of the truly endogenous variable based on the results of the GCBEW test are in two parts. The first part results the variance decomposition of GDPPC; while the second table presents that of HFBI. The fluctuations of GDPPC are explained mainly by GDPPC and HFBI shocks, in the long run. GDPPC shock accounts for 100% in the first year. Its proportion in the variance of GDPPC decreases over time and reaches 64.18% in the tenth year. HFBI shock accounts for 16.13% in the second year. Its proportion increases over

time and reaches 20.09% in the tenth year. HFBI fluctuations are predominantly accounted for by shocks to GDPPC, SEMC and HFBI. GDPPC shock explained 16.54% variation in HFBI in the first year, its proportion in the variance of HFBI increases over time and reaches 58.89% in the tenth year. SEMC shock accounted for 43.78% variation in HFBI, its proportion in the variance of HFBI decreases over time and reaches 26.19% in the tenth year. Finally, the share of HFBI shock in the variance of HFBI is 27.22% in the first year. Its proportion decreases thereafter before reaching 7.18 in the tenth year. Shock to SEMC is the most important shock to GDPPC and HFBI; however, this third party effect has increases for GDPPC but diminishes for SEMC. Shock to GDPPC is both important to GDPPC and HFBI, in its second party effect, however, shock to GDPPC increases for HFBI over time, but decreases in its self-effect over time. Finally, shock to HFBI is also an important source of fluctuation to HFBI; but its self-effect diminishes over time.

Before the VAR model was estimated, the white noise property of the error term of the model was verified by conducting normality test. The null hypothesis of normal distribution of the error term was accepted on the basis of the p-value estimated jointly for Skewness and Kurtosis on the one hand and the estimated to Jarque-Berra (JB) statistics on the other hand. Lag selection test was also conducted using such criteria as Final Prediction error (FPE); Akaike information criterion (AIC); Schwarz information criterion (SIC); and Hannan-Quinn information criterion. This criteria unanimously put the appropriate lag structure for the VAR model at 1 2, at 5% level of significance.

Our analysis of the VAR estimation results is based on the GCBEW test and the statistical significance of the parameter estimates based on the t-statistic value of the estimated lag coefficients. T-statistics value greater than 1.96 is considered statistically significant; otherwise not statistically significant. The values in [ ] parentheses are the t -statistic values. The result of the GCBEW test suggests that GDPPC and HFBI are primary endogenous variables whose variations are accounted for by changes in GDPPC, SEMC and HFBI; while INTR is a secondary endogenous variable whose variation is accounted for by changes in M_2PC. Thus our analysis is based on the impact of the valid explanatory variables as identified by the GCBEW test.

Accordingly, for GDPPPC equation, lag values of GDPPC does not significantly determine the present value of GDPPC; but lag values of SEMC and HFBI positively and significantly determine the present value of GDPPC. This decision is based on the sign of the estimated coefficient and the t-statistic value. For instance, holding the effects of other lag explanatory variables effects on GDPPC constant, one period lag value of SEMC significantly causes 0.111134 positive increases in GDPPC on the average with t-statistic value of 3.61512, at 5% level of significance. HFBI has two different directional effects on GDPPC in the estimated VAR model which is consistent with our Impulse Response Function. In the short run, HFBI has a significantly negative effect on GDPPC; but in the long run HFBI has significantly positive effect on GDPPC. The estimated model significantly explains 98% variation in the current value of GDPPC. From the HFBI equation, one period lag value of GDPPC has a negative and significant effect on HFBI; and one period lag value of SEMC has a positively significant effect on HFBI. 99% of the total variation in HFBI is explained by the estimated equation.

V. CONCLUSION AND RECOMMENDATIONS

The development of financial sector serves as an important factor in financing housing demand through the mortgage channel. The housing provisions has its direct impact on the standard of living of individuals and as a catalyst for augmenting labour productivity is expected in turn influence economic growth in a positive way. A chain of economic prosperity is expected to set in where an improvement in the general level of economic activity induces the supply of finance necessary for meeting the demand for housing by both individuals and corporate bodies.

Findings from the study shows that there is a causal link between the financial market and mortgage financing

through long term financing channel of the stock exchange market. However, no evidence to suggest that the level of financial development was responsible for the observed causal links either in part or in full. This is because findings from the GCBEW test could not support the existence of a causal link between broad money supply and stock exchange market capitalization. Rather than boost financial transaction, the level of financial development was observed to be an important source of macroeconomic instability. Surprisingly, macroeconomic instability does not have any observable significant influence on either aggregate housing finance or economic growth. It equally does not influence the level of financial development and stock exchange market activities in a meaningful way. However, the impact of financial market activities on mortgage financing was positive and significant in the short run, but negative and insignificant in the long run. This dynamic relationship might be due to the under develop nature of the financial system. In addition, findings from the study lend support to the causal link between mortgage finance and economic growth. Mortgage finance was found to be a significant determinant of increasing pattern of economic growth over a long period of time.

From the above conclusion, we therefore recommend that Nigerian government should intensify effort aimed at consolidating the level of financial re-structuring in the non-banking sector to which mortgage bank belongs. Fiscal and monetary policy measures aimed at increasing the number of mortgage bank operators should be put in place to enhance the efficiency and effectiveness of mortgage banking in Nigeria. This will in turn increase the supply of housing to meet the growing need of the people and ultimately drive the economy towards rapid growth. Such consolidation should also be consciously geared towards repositioning the banking sector as one of the effective channels for housing finance. This could be in the form of central bank stipulation for commercial banks to set aside certain proportion of their total assets to finance housing demands. Government could provide enabling environment by adopting counter cyclical measures for stabilizing the economy in order to make the mortgage business attractive to the private sector. The Central Bank of Nigeria needs to re-strategize and explore relevant mechanisms for collecting quantitative information on housing finance from all formal financial institutions in Nigeria. This will enable policy makers, practitioners and researchers to effectively evaluate the impact of such finance on a number of household, firms and government performance indicators.

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