EFFECTIVE HOUSING IN THE 21ST CENTURY NIGERIA

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SUSTAINABLE HOUSING INVESTMENT AND POLICY INCENTIVES IN A DEREGULATED NIGERIAN ECONOMY

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1.0 INTRODUCTION

Housing is a central need in the socio-economic life of individuals and the society as a whole, informing the prioritisation of housing as a basic need and an important indicator of welfare level. The quality and quantity of housing facilities available to households and organisations partly determine the level of health, productivity, longevity of life and the quality of environment in any society. Compared to rural areas, urban housing problems tend to be more acute in quantitative terms than qualitative. The nature of environmental problem resulting in the two areas is different and reflective of the housing needs.

The government has demonstrated its concern for the housing situation in the country in various ways. First, there have been many instances of government's direct participation in housing investment through the construction of many government housing estates across Nigeria since the pre-independence era till now. Second, government has set up mortgage finance organisations to mobilise savings and supply funds to housing development. Also, it has set up the National Housing Fund scheme for workers to contribute savings for housing development.

The government at various levels in the country have adopted strategies including direct government investment in housing development, housing soft loan schemes to government employees, establishment of mortgage institutions. The most significant problem of housing investment has been inadequacy of independent private savings to the real estate investors since the interest rate payable to savers in the real estate industry is lower due to the long-term nature of the investment. The situation is worsened by rent regulation in some cases. The watershed period and programme in private sector financing of housing investment has been the 1977-1993 establishment and restructuring of mortgage banking. However, the major problem in housing investment still persists: lack of funds still rules investments in the real estate industry.

The acute nature of housing problem in Nigerian towns is to the extent that "the average monthly rent for a room in Lagos and Port Harcourt is now about 60% of the national minimum wage, as against 20 per cent target set by the United Nations" (FRN, 1997). The natural result of the urban housing problem has been the creation of shantytowns, slums and squalor, which increase human discomfort through pollution and debilitate human health with aggravating effect on productivity. The situation in the rural areas is not any better. The only difference is that the housing problem here is more of the quality than quantity, which also has its peculiar environment pollution problem. Nevertheless, the health hazard of the poor quality of housing and near-absence of modern infrastructural amenities in the rural areas are comparable to, and sometimes worse in spread than, the health effects of urban pollution.

A more disappointing effect of public sector direct participation in housing investment has been the general complaint and observation that the method of allocating government constructed houses is always against the poor since they neither can buy nor can they afford to rent those houses. The positive effect of private sector investment in housing development is more widespread and evenly distributed. This is because market factors are the primary determinants of both the production and acquisition of housing in the private sector. If the private sector can efficiently supply housing, the government should therefore concentrate in the provision of investment incentives to cushion risks and encourage private long-term investment required in the development of real estate property.

For such incentives to work, the government should identify the right target variables and adopt the correct policies. This paper shall attempt to identify the relevant determinants of housing investment so as to subsequently answer the question: in what ways can economic policies be used to stimulate and sustain private investment in housing in the post-adjustment Nigerian economy? Answering this question entails an empirical analysis of the explanatory variables for housing investment in order to establish major target variables. Sustainability of housing investment is that which continuity is guaranteed without any direct government intervention.

The chapter is arranged into five sections. Section 1 offers a brief introduction to the study; section 2 discusses the theoretical basis for policy incentives for housing investment, while section 3 presents

analysis of determinants of housing investment. In section 4, policy incentive options for sustainable housing-investment are provided and section 5 offers the conclusion.

2.0 THE THEORETICAL BASIS FOR POLICY INCENTIVES TO HOUSING INVESTMENT

The general theory of investment believes in existence of positive relationship between investment and growth/development. The classical theory defines investment as an increase in capital stock in a production system. For the purpose of this paper the definition of investment adopted refers to it as the growth in physical stock of capital in the housing sector. Investment can be classified by degree of risks and by generation of pay-back of investment costs. Thus, we may have high- and low-risk investment going by risk classification, or short- and long-term investment according to pay-back age of the investment. Most high-risk investments fall into short-term with very high returns, while low-risk investments are mostly long-term and attract low returns.

Real estate investments generally are long-term, low-risk with low-returns. In the risk and amortisation spectra, therefore, real estate investments are almost risk-free and accordingly with long period of amortisation. Under the commercial (or market) evaluation of investments, marginal efficiency of capital (MEC) – the rate of interest that will discount the present value of a project to zero – and pay-back period, are the major criteria used for project consideration. MEC internalises both the internal rate of returns and the costs of an investment in its consideration. MEC as a criterion is weak in that sources of investible funds with lower rates of interest will make the project under evaluation more attractive since the opportunity costs of investible funds are not brought into consideration. Pay-back period criterion is weak in that projects with long-term gestation period and higher net returns can be rejected in preference for short-term investment with lower returns (Ekpenyong, 1993).

Since 1980s, there had been rapid spread of deregulation policies among the developing economies. In Nigeria, the deregulation of the economy that started in 1986 emphasised appropriate pricing in most of the markets, including money, foreign exchange, capital, and goods markets. This has resulted in rapid increase in interest rates, excessive devaluation and double-digit inflation rates. This combination of high interest rate and rising inflation apparently would provide a conducive condition for growth in investment generally. But growth in long-term investment under such conflicting policy situation alongside an unstable socio-political environment can only make investment in long-term projects fortuitous! Long-term investment, as Akpan (1998) noted, requires stable rate of interest and exchange rate, predictable economic policies, and stable political and social environment in addition to any policy incentive for enhancement of investment.

However, the received theories of investment do not consider the existence of various inefficiencies in both the supply and demand sides of capital markets, which ultimately lead to increase in the user costs of capital (Auerbach, 1992). The inefficiencies can be in the form of inadequacies in the flow of investment market information, malfunctioning of adjoining factor and/or output markets, or inefficient infrastructural supply. The situation in developing economies is characterised by various levels of inefficiencies leading to rapidly increasing costs of investment awash in volatile socio-political environment, all of which are repulsive to long-term investment. Since the social gains from long-term investments are greater than those from short-term investments, and long-term investments are less attractive in the short-run, there is therefore justification for government intervention to reduce the risks in long-term investments. The most market-favoured option for such intervention, which will not negate the objectives of deregulation, is the provision of policy incentives. The basis of policy incentives is mainly to sensitise market mechanism in a way that will increase the profit margin for targeted investments that could have been relatively less profitable without the incentives (Akpan, 1998). Policy incentives, by passing through the market mechanism to reduce risk and increase relative profitability, allow for government positive influence and neutrality required by structural adjustment and deregulation programme.

In Nigeria, the government seems to be more committed to direct investment in housing than giving incentives to the private sector. The objective statement in the 1991 National Housing Policy, for instance, lays more emphasis on public sector direct participation in housing investment than on incentives to private sector. The four cardinal objectives are to:

(i) Encourage and promote active participation of all tiers of government in housing delivery;
(ii) Strengthen institutions within the system for more responsive service and operations;
(iii) Emphasise housing investments that satisfy basic needs; and
(iv) Encourage greater participation of the private sector in housing development.

Apart from the last objective, the housing policy is pro-government and the role of the market mechanism is not given a place in this policy. The strategies set out to achieve these objectives are equally dominated by government direct involvement. Only one of the eleven strategies is directly

concerned with the private sector; that is, to mobilise private sector participation in the provision of housing. Mobilisation of savings through the establishment of a National Housing Fund (NHF) has to do with public establishment and control of NHF than the mobilisation of savings for investment. However, in a deregulated economy, there is need to emphasize reliance on market forces and the private sector for investment in industries that can efficiently be operated under the price system (World Bank, 1991).

3.0 EMPIRICAL ANALYSIS OF DETERMINANTS OF HOUSING INVESTMENT

The specification of housing investment model in this section relies on the theoretical inferences in the theory of investment. The model is a multiple regression equation. Three groups of investment in the housing sector were considered separately with four explanatory variables. The three investment variables are the fixed capital formation in the residential property, non-residential property and land-improvement, financial sector loans to the real estate investors, and foreign direct investment in real estate. Data on fixed capital formation are derived from the national income accounting data and should therefore represent a macro-economic position of investment in the housing activities. Since gross fixed capital formation draws up funds from the economy as a whole, it is necessary to investigate the characteristics of different sources of investment funds to the housing sector. Thus, the loanable fund investment is intended to capture the behaviour of the banking public with regards to investment in housing, and the foreign direct investment is directed at analysis of foreign interests in real estate development in Nigeria.

The factors explaining the private sectors investment behaviour are: (1) interest rate, (2) price of real estate output (price index for accommodation), (3) per capita income, and (4) exchange rate.

In the choice of explanatory variables for this study, consideration was given to their macroeconomic relevance and their importance as policy variables or target variables. Interest rate is very important in investment analysis generally because its level determines availability of funds and profitability of investment. Per capita income is an important policy target variable whose level affects demand for and supply of goods and services, level of savings/investment, and many other economic activities. Again, in considering investment decision for any project, it is necessary to consider the returns on such investment, thus, making the consumer prices very relevant. The consumer price is a composite function of cost of production and a profit margin. Hence, inclusion of consumer prices for accommodation connotes the composition of producer's prices of materials and some profit margin for the investment.

Foreign exchange rate – *defined as naira to a dollar rate* – is also thought to be an important determinant of housing investment given the devaluation of naira and the high import content of materials used in the building and construction sector.

A priori, the expected direction of relationship between interest rate and investment demand is negative, while that between income and investment is positive since at higher income more will be demanded (making prices and profit margin to rise) and more savings will be generated leading to increase demand for investment. The normal relationship between consumer price and investment is positive since higher prices will increase profitability position of a project (Branson, 1989). The relationship between exchange rate and investment will depend on the source of investible funds. The funds from non-banking internal sources will not respond to changes in exchange rate in the same way as banking sector and the external sources. For the housing sector as a whole, it will depend upon the level of its dependence on foreign inputs. Where the major source of funds is external (like the foreign private investment), depreciation of domestic currency will attract more investible funds. On the other hand, higher imported content of investment goods will create a negative relationship between exchange rate and investment.

The model used for the analysis is the log-linear investment function, except for foreign direct investment analysis where the normal linear form yielded better result. The coefficients estimates in the log-linear model directly provides us with the elasticity coefficients. Data used in this study span between 1970 – 1996 for equation (1), 1970 – 1997 for equation (2) and 1970 – 1995 for the last equation. The models are of the form listed below. Each is a single equation technique.

$$\log(INV) = \alpha_1 + \beta_1 \log P + \beta_2 \log R + \beta_3 \log PY + \beta_4 \log FXR + \mu_1$$

$$\log(BINV) = \alpha_2 + \gamma_1 \log P + \gamma_2 \log R + \gamma_3 \log PY + \gamma_4 \log FXR + \mu_2$$

$$FPINV = \alpha_3 + \zeta_1 P + \zeta_2 R + \zeta_3 PY + \zeta_4 FXR + \mu_3$$

Where INV = Investment in Housing in the economy, derived from gross fixed capital formation in the housing sector.

BINV = loan investment in the sector derived from aggregation of bank (commercial, merchant, mortgage) credits, and insurance companies investments in real estate.
FPINV = foreign private investment in the real estate sector.
P = Consumer's price index for accommodation
R = lending rate
PY = Per capita income
FXR = Exchange rate
μ = residual, unexplained variation in the model.
The results are presented in Tables 1, 2 and 3 below.

Table 1: Estimates for Equation (1)

Explanatory Variable	Coefficient	Standard Error	t-Statistic	Other Statistic
LogP	0.15	0.235	0.639	$R^2 = 0.829$
LogR	-1.037	0.622	-1.666	Adjusted R^2=0.798
LogPY	1.903	0.334	5.7[a]	F-Statistic=26.66
LogFXR	-0.838	0.235	-3.538[a]	DW = 1.817
a_1	-2.233	1.376		

Table 2: Estimates for Equation (2)

Explanatory Variable	Coefficient	Standard Error	t-Statistic	Other Statistic
LogP	0.822	0.140	5.851[a]	$R^2 = 0.97$
LogR	0.458	0.372	1.232	Adjusted R^2=0.965
LogPY	1.138	0.199	5.709[a]	F-Statistic=179.98
LogFXR	-0.739	0.141	-5.258[a]	DW = 1.478
a_2	-4.347	0.822		

Table 3: Estimates for Equation (3)

Explanatory Variable	Coefficient	Standard Error	t-Statistic	Other Statistic
P	484.053	57.479	8.421[a]	$R^2 = 0.867$
R	6858.352	3808.874	1.801[c]	Adjusted R^2=0.842
PY	-6.303	75.478	-0.247	F-Statistic=34.196
FXR	-18284.03	5406.402	-3.382[a]	DW = 2.153
a_3	-50927.28	29105.75		

t-value with *a* = significant at 1% level; *b* = significant at 5% level; *c* = significant at 10% level.
Note: All data used in this study are either drawn directly or computed from the CBN and FOS publications referenced below.

From the results in Table 1, it is clear that per capita income, exchange rate and, to some extent, interest rates are significant determinants of housing investment in Nigeria. Investment in housing development is income and interest elastic since their coefficients of elasticity are 1.903 and – 1.037, which are greater than unity in absolute term. The price index of accommodation is an insignificant determinant of investment in housing. Housing investment is price-inelastic with a coefficient of 0.15. This is not so far from economic reality because housing investment is a long-term pay-back project whose current investment decision hardly reflects current period prices of accommodation. (Even when lag and forecast values were used in the analysis, the performance of price as a determinant of housing investment did not improve.) This also has serious policy implications for the government rent control as mentioned below.

In Table 2, the activities of pure economic portfolio investment via interest-attracting loans are captured. The overall regression performance is better here (with 97.0 per cent R^2) than any of the other estimated equations. The explanatory variables yield statistically significant regression coefficients except for interest rate. The consumer price exerts positive influence on investment in housing that employs loanable funds, although it has inelastic coefficient of 0.822. This is because of the need to ascertain the loan amortisation feasibility while embarking on the investment. Again, with regression/elasticity coefficient of 1.138, income per capita is still a very volatile factor in the determination of housing investment.

The inflow of foreign private investment to the real estate development also presents very

interesting results to policy formulation (see Table 3). The performance of domestic level of rent is very important in the determination of foreign investment in real estate property. Since such investments are basically for pure economic gains, the prices (rents) of real estate property have to be attractive for easy recovery of costs of capital. The per capita income, which determines domestic savings, has a negatively elastic (but statistically insignificant) relationship with inflow of foreign private investment to real estate sector. The reason is that foreign direct investment is only a supplement to the domestic investment (savings). With low income, there will be lower savings and higher need for investible funds, which will then attract more foreign investment to bridge the gap. Domestic interest rate is a positive, elastic and significant determinant of foreign private investment to the sector. The reason is that foreign private investments often come in form of loans, hence, higher interest rates will attract more foreign lenders/investors to the real estate sector.

Interestingly, the autonomous investment in housing using loanable funds is negative showing the disinvestment, sales of real estate property, and diversion of loans to other sectors if the expected returns on investment is approaching zero. This demonstrates the dominance of profit motive in investors who use loanable funds for real estate development. It also shows that if no return is expected from real estate investment or if it is too low, there will be divestment by way of sales of the existing real estate property.

In all the three cases, foreign exchange rate is an important inverse determinant of housing investment. It is very significant and elastic in the foreign direct investment model. This is due to the high import requirement of housing construction, which requires low exchange rate for successful and sustainable investment.

The treatment of the three explanatory variables, price of accommodation, interest rate, and per capita income, together shows that introduction of exchange rate brings about some policy disturbances. This is marked by change in predicted signs from the expected direction of relationship. Given the results in tables 4, 5 and 6 below compared with those in tables 1 to 3, it can be noticed that there have been interactions of exchange rate with some of the explanatory variables, especially interest rate. (From the computed correlation matrix, the level of relation between interest rate and foreign exchange rate is 0.92.) When exchange rate and interest rate are used together, it causes change in signs of coefficient estimates of interest rate. This is informative to the effect that both exchange rate and interest rate policies need to be combined with caution.

Though not tested in this study, there are important socio-cultural determinants of housing investment in the Nigerian economy. These factors include social status of individual (determined by such variables as position in the community, educational status, etc.), occupation, marital status, family size, social prestige, mode of settlement and communal requirements on housing. Some of these factors are however absorbed in the economic variables analysed above.

Table 4: Estimates for Equation (1): Dep. Variable = log(INV)

Explanatory Variable	Coefficient	Standard Error	T-Statistic	Other Statistic
LogP	-0.284	0.223	-1.273	R^2 = 0.753
LogR	-2.591	0.526	-4.925*	Adjusted R^2=0.70
LogPY	2.159	0.385	5.611*	F-Statistic=21.92
a_1	1.212	1.128		DW = 1.339

Table 5: Estimates for Equation (2): Dep. Variable = log(BINV)

Explanatory Variable	Coefficient	Standard Error	T-Statistic	Other Statistic
LogP	0.406	0.162	2.513	R^2 = 0.935
LogR	-0.901	0.381	-2.365*	Adjusted R^2=0.927
LogPY	1.39	0.279	4.987*	F-Statistic=116.03
a_1	-1.565	0.817		DW = 0.437

Table 6: Estimates for Equation (3) Dep. Variable = FPINV

Explanatory Variable	Coefficient	Standard Error	T-Statistic	Other Statistic
P	331.281	43.157	7.676*	R^2 = 0.794
R	-803.057	3717.99	-0.216	Adjusted R^2=0.766
PY	-28.517	29.891	-0.954	F-Statistic=28.34
a_1	15781.07	23004.86		DW = 2.234

* *These are the estimates that are significant at least at 5% level.*

4.0 POLICY INCENTIVE OPTIONS FOR SUSTAINABLE HOUSING INVESTMENT

For sustainable housing investment to take place, the government needs to focus on policies that will feed back positively into the investment function of the housing sector. As noted earlier (in section 2), it is more cost-efficient for government to offer policy incentives to investment that can be carried out efficiently in the market place than to get involved directly in such activities. Given the object of reduction in the size of government associated with deregulation, and the fact that housing investment can be efficiently undertaken in market environment, there is over-riding need for the private sector to be encouraged to increase investment in the real estate sector.

Arising from the results discussed in the preceding section is the issue of policy implications of the analysis. Three variables, namely, exchange rate, per capita income and price of accommodation, are very important policy variables. Policies based on these variables can be adopted to significantly influence housing investment behaviour in the economy. However, policy mix involving exchange rate should only be adopted with intensive caution due to its high level interaction with other variables, especially with interest rate whose correlation coefficient is 92.5 per cent.

For pure private investment outlays captured by equations (2) and (3), price indices for accommodation are good determinant and, therefore, can be effective policy instrument. However, since domestic investments in housing are generally inelastic to accommodation prices, increase in these prices will add more pressure to the costs of living than ease housing problem. Conversely, decrease in prices of accommodations will have less than proportionate decrease in housing supply. However, since rents are determining factor for commercial investors (those investing with loanable funds and foreign investors), and ceiling on rents will be a disincentive to some of these investors. The government should rather introduce rent subsidy policy, since that will serve the dual purpose, as income and rent policies. This will be more beneficial to the economy since the virtuous forces of increase in income will be set up.

There is a clear proof that per capita income is a very important direct determinant of domestic investment in housing. Government must incorporate income policy into its housing policy. Truly, the level of income directly determines the level of savings (part of which is investible funds) available for investment projects in an economy. It is misleading for the National Housing Policy to emphasise mobilisation of savings without addressing the fundamental problem of low worker's pay in the economy. Even at the unsettled new minimum wage of N7500.00 monthly, no public servant will be able to save enough to build his own modest house, when rents alone gulp 60 per cent of an average worker's earnings! Policies aimed at increasing per capita income and improving income distribution will drastically lead to increase in housing investment.

Income policy is also the most sustainable in bringing about continuous growth in housing investment. This is because of the virtuous cycle which increase in income per capita and equitable income distribution will bring. For example, increased income will lead to increased savings, leading to higher investment activities (in housing and other sectors), leading to further increase in income, savings and investment.

As income policy is pursued, it is necessary to manage the rate of interest in the economy in a way that will make long term investment profitable. In a deregulated economy, however, it is the market forces that should determine price in all sectors, including money and capital markets. Nevertheless, the Central Bank still has a role in the control of money supply and determination of prime rates on which hinge the market rates of interest. Allowing for availability of funds in mortgage institutions, at over 20 per cent interest rates, there is bound to be diversion of loans to short-term investment opportunities in order for the borrowers to service the loans. Therefore, the Central Bank should manage the monetary variables within its control to ensure stable interest that will make long-term investment attractive.

Although there are laudable goals on the provision of rural infrastructures to encourage rural housing development, little have been achieved in this direction. Housing policy that will evolve sustainable housing development requires supportive policies such as rural infrastructural, employment and income policies. There is need for siting of government core companies in the rural areas so as to generate linkage effects in employment and income generation in such areas with attainable positive effects on housing needs and investment in the neighbourhood. Also, government-owned mortgage institutions should give concessions to rural customers in their loan schemes. In all these, there is need for effective information dissemination on the housing incentives and opportunities offered by the government and its agencies using media (such as radio) that are accessible both to the rural and urban dwellers.

5.0 CONCLUSION

Housing investment is an activity that is very responsive to economic principles of investment. The private sector investors can adequately undertake housing investment if economic incentives are