Private Sector Participation, Structural Adjustment and Nigeria’s New National Housing Policy: Lessons from Foreign Experience

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WORKING PAPER
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INTRODUCTION

One of the main objectives of a structural adjustment program is to shift the demand for goods so that fewer goods are imported and domestic production increases. In the Nigerian shelter sector this shift appears not to have occurred even though the adjustment program is now six years old. In fact, domestic production has been rapidly declining as a share of GDP for the past decade to a level 40 percent of that achieved in the late 1970s. In addition, it appears that the import content of new housing production is relatively unchanged. Further, the public sector housing that is produced is affordable only with enormous subsidies, adding to the problems in implementing the budget cuts required for the Adjustment Program to be sustainable. In response to this problem the government of Nigeria has recently adopted a new National Housing Policy (NHP). The language of the new policy approach embraces the private sector as the chief means to address the severe shortages and costs of shelter. It also calls for the “government to become an enabler, promoter and facilitator conducive to individual and cooperative housing efforts,” rather than a direct implementer of housing policy as it has attempted to be in the past. This is an effective government policy objective for both the sector and the economy. Not only could it make the sector more productive, but also it could contribute to the kinds of increased domestic production that the Structural Adjustment Program aims to achieve. However, the financial instruments proposed to fulfill these objectives will not produce these results; furthermore, they may well have the opposite effect: increasing the role of the public sector and expanding the distortions that have undermined the functioning of the housing market.

The broader “stakes” involved with reforming the sector have increased because the reforms enacted are not only inefficient instruments for the sector but also could be detrimental to overall economic growth and financial stability. If the private sector is to contribute to improving the performance of the shelter sector, fundamental modifications in the NHP are necessary. By reviewing strategies and programs that other countries have used under similar circumstances to rejuvenate their shelter sector, this paper provides information on how housing policy can operate efficiently and sustainably. The plan of the paper is as follows. First, private sector participation in the Nigerian housing sector is examined. Then, the main financial instruments of the new National Housing Policy are described, followed by a discussion of international experience with similar programs. Other methods of financing the new Nigerian housing policy are considered, and in a final section the most likely implications of the new policy are discussed.

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EXECUTIVE SUMMARY

This paper provides an overview of the new National Housing Policy (NHP) that was recently adopted in Nigeria. The language of the new policy approach advocated in the NHP promotes the private sector as the chief means to address the severe shortages and costs of shelter in Nigeria. However, it appears that many of the key measures advocated in the NHP could be counteractive to both private sector development and the Structural Adjustment Program (SAP). Through a review of the strategies and programs that other countries have used to rejuvenate their shelter sector, this paper provides information on how the NHP can be revised to better exploit the private sector, operate more efficiently and sustainably as well as to contribute to rather than impede the Structural Adjustment Program.

For the past decade, the average level of GDP invested in housing has been declining. In addition, imported materials continue to account for a large portion of the inputs used in housing construction, and mortgage finance has become increasingly scarce and unaffordable. In an effort to reform the housing sector, the Nigerian government recently adopted a new National Housing Policy (NHP). The government’s role is to act as “an enabler, promoter and facilitator conducive to individual and co-operative housing efforts,” instead of acting as a direct implementer of housing policy as it has been in the past. This new approach could serve to make the housing sector more productive and contribute to increased domestic production especially of housing inputs. However, the financial instruments proposed to fulfill these objectives are not conducive to these ends and may well produce the opposite effect: increasing the role of the public sector and expanding the distortions that have undermined the functioning of the housing market.

The main instruments of the NHP are (1) a new wage tax to finance housing, (2) increased directed credit for housing at low interest rates and increased competition for deposit resources from newly created and undercapitalized mortgage institutions and (3) increased access to subsidized credit for public sector housing producers. The newly created National Housing Fund will finance the sector through the Federal Mortgage Bank of Nigeria (FMBN) which will then on-lend to newly created private sector institutions. The National Housing Fund will operate through (a) a mandatory 2.5 percent tax on all wage earners earning more than N3000 per year, (about US$ 150): these contributions would be put into a retirement fund with a low nominal yield that is currently about negative 25 percent. (b) contributions equalling 10 percent of loanable funds from all commercial and merchant banks: they would earn an interest rate one percent higher than the rate chargeable on current account deposits thereby reducing profitability of these banks. (c) investments of 10 percent of non-life funds and 20 percent of life funds of insurance companies: these funds will be invested at a four percent nominal interest rate which will result in substantial losses for the insurance industry at the current level of inflation, in excess of 20 percent. Problems, possible alternatives and more sustainable schemes are discussed further in the paper.

Alternatives to the forced savings scheme proposed in the NHP are available and currently under implementation in other countries, such as Ghana, Mexico, and Poland. Indexed mortgages may be a viable alternative. Indexation can operate to make housing finance both affordable and sustainable by financial means rather than by government transfers. However, great care must be taken in the design of indexed mortgage systems, otherwise, they can easily become a more circuitous, less transparent way of providing credit subsidies.
Private sector development in the Nigerian shelter sector has been at a standstill for more than a decade. With few exceptions, the private sector transactions that have taken place have been informal and on the fringe of legality. At the opposite end of the spectrum, public sector activity is plagued with many problems. Instead of operating as a social policy, it operates more like a regressive lottery or patronage system. The results have been the simultaneous construction of some of the most luxurious subsidized housing in Africa, and general deterioration in the housing conditions of most Nigerians, particularly the housing conditions of the poor. The changes proposed in the new National Housing Policy (NHP) could well expand the public sector role in those areas where private sector development could make the greatest contribution—in the financing and production of housing.

Over the four years of the SAP ending in 1990 the average level of investment in housing was 1.7 percent of GDP. This figure is almost half the 3.3 percent share achieved in the preceding decade, and this share has secularly declined from over 3.6 percent of GDP in 1975 to 1.5 percent in 1990.\(^2\) The adjustment process is clearly related to a reduction in the amount invested in housing. However, this period also witnessed an oscillation and decline in oil prices and correspondingly national income. Such macroeconomic trends would also have negative effects on long-term investments such as housing. Hence, the exact cause of the secular decline in housing investment over the past 15 years is impossible to identify with any precision. But, what is clear is that the full cost of new housing, as produced in Nigeria, is reflected increasingly in the prices paid. For example, a conservative estimate of the foreign exchange content of housing investment in 1990 was such that the price of imported materials for housing construction was greater than income from all non-oil exports.

With the depreciation of the naira, the full cost of housing constructed primarily from imported materials (on the order of 50 to 60 percent of inputs) becomes clearer.\(^3\) For instance, consider the case of a family who in 1986 purchased a new home, constructed from 50 percent imported materials. Suppose, conservatively, that the structure accounted for 70 percent of the cost of the house, and that the cost of the house was five times annual income.\(^4\) If that family were to buy the same house with the same imported materials in 1991 because of the reduced value of the naira, the house would require more than 12 times annual income. If the further reductions in the naira’s value over 1992 are taken into account these cost increases become even more pronounced. In this kind of cost environment the surprise is not that import-based housing investment declined, but that the decline was not greater.

\(^2\) The figures are from Economic and Social Statistics, Federal Office of Statistics. Lagos, Nigeria. The first four years of observations are from a 1985 publication; the data through 1990 are the most recent available.

\(^3\) Onibokun (1986).

\(^4\) This figure is not unusual for those developing countries that have reasonable regulatory regimes.
As the above example shows, domestic input markets have failed to replace the imported materials used in housing construction. One reason for this failure is the lack of credibility that a complete adjustment has occurred in the foreign exchange market. Until March of 1992, a parallel market for foreign exchange existed, with premia averaging over 30 percent. Hence, even though the official value of the naira had fallen, for domestic producers, there was the reasonable expectation of the need for further substantial reductions. Such a prospect does not provide a credible basis for domestic producers to begin a serious investment program in an industry that produces non-tradable goods. The result is a lack of private sector interest in developing the input industry, even though significant but not complete adjustment had taken place. A credible foreign exchange market is essential for encouraging private investment in the housing sector.

For the encouragement of private sector input production, the most important step is the development of a credible macro and sectoral environment. This credibility will have much more important effects than increased funding for research into low-cost housing production techniques and manpower training programs as recommended in the NHP. Of course, attention should be given to making sure that building approval standards are not inhospitable to the development of more reliance on locally-produced goods. But, the keys to credibility on a macro level are : (1) a freely determined exchange rate--so that imports are not subsidized relative to domestic production, and (2) a less inflationary environment so that long-term finance can prosper. On a sectoral level, credibility requires access to land and finance on competitive, affordable terms, and the allocation of domestic input production on a market rather than administrative basis. If this kind of credible environment can be put in place, then an important complementary policy change could make the NHP consistent rather than competitive with the Structural Adjustment Program. This policy could substitute the expansion of finance for the currently proposed expansion of government transfers and contingent liabilities.

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5. Uko (1992) discusses the case of the unsubscribed common stock shares for the Nigerian cement producer Nigercem. It says that despite bright industry prospects, investors were wary because of the heavy involvement of government in the company.

6. As far as government transfers go, an issue that also merits consideration is the structure of compensation for employees. As a rule housing allowances are granted in cash or in kind, with 50 percent of basic salary as median for middle management and much higher for senior management. Especially as such allowances may not be reported for personal taxation it confers a greater purchasing power on these employees and has a significant effect on the price of housing, apart from making the taxation system less transparent and progressive.
II. HOUSING FINANCE POLICY UNDER THE NHP

The part of the new National Housing Policy (NHP) that has received the greatest amount of public attention and which the policy document refers to as the center piece of the new approach is the establishment of a National Housing Fund which will finance the sector through the Federal Mortgage Bank of Nigeria (FMBN). The FMBN which is a designated APEX lending institution will on-lend to newly created private sector mortgage institutions.

Capital for the National Housing Fund will be raised through three main sources:

(a) A mandatory 2.5 percent tax on all wage-earners earning N3000 (about US$ 150) or more per year. These contributors would be able to withdraw these funds at retirement, with a low nominal yield that is currently about negative 25 percent. Families saving at this real after inflation rate of interest will have serious problems. For instance, in ten years their current contributions will be worth about 10 kobo on each naira of contribution. And, if inflation increases, even less.

(b) All commercial and merchant banks would contribute 10 percent of their loanable funds in this Fund at the FMBN. They would earn an interest rate one percent higher than the rate (currently a maximum of five percent) chargeable on current account deposits. Hence, this measure would imply that commercial bank profitability would be reduced by the difference in the rate they would have earned on their current undirected loans that would in the future have to be put in the housing fund. In the Spring of 1992, the interest on inter-bank loans was on the order of 45 percent. The difference is thus a reduction in return of about 40 percent, and because this lower return applies to 10 percent of bank lending it would in turn result in an average return on total lending that was lower by about four percent. To maintain their current level of profitability, banks would have to increase their spread by three to four percent. Hence, even ignoring commercial bank problems with bad loans and the Central Bank's estimate that about one-third of the country banks are "unhealthy" or "distressed", this policy is not consistent with a well-functioning banking system. For Merchant Banks the implied tax rate could be even higher because their return on unrestricted lending is higher. They can, however, avoid at least some of the tax by changing the mix of their investments away from lending.

(c) Insurance companies would be required to invest 10 percent of their non-life funds and 20 percent of their life funds in real estate with at least half of these amounts going to the housing fund at a four percent nominal interest rate. Once again the losses would be substantial at an estimated N52.7 million annually.  

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7/ See Hawkins for a more detailed analysis of Nigeria’s banking system.

8/ Business and Financial Analyst.
Unless inflation were to fall quickly and permanently, these investments in the National Housing Fund would not be sustainable.

In addition, the Federal government has released a N250 million take-off grant to ensure the viability of the Fund.9/

The FMBN will lend the proceeds to newly established primary lenders, called mortgage institutions. As of August 1992, 61 such institutions had been licensed with an extremely low capital requirement of five million naira, (about US$ 220,000) and over 200 other firms were seeking such licenses. The plan is for the mortgage institutions to on-lend the proceeds to individual borrowers, with 80 to 85 percent financing from the National Housing Fund while these mortgage institutions will mobilize the residual portion of the loan, earning a four percent spread on their cost of borrowing from FMBN. Earning this four percent spread on 80 percent of the loan would permit these new institutions to compete aggressively for deposits. Hence, other deposit-based lenders, such as banks, would be confronted on both sides of their balance sheets: more competition for deposits from new institutions and more constraints on earnings from the lower interest rates on their earmarked assets.

Perhaps the most striking deficiency of the National Housing Fund is that it fails to benefit its target population -- families of modest income -- due to fundamental loopholes in the plan. Workers earning at least N3000 per year contribute to the Fund and are its expected beneficiaries. The Fund authorizes N80,000 as the minimum amount of a loan and 25 years as the maximum lending period. At the current rates of interest, N3200 is the minimal yearly mortgage payment under these conditions. This amount is higher than the annual salary of many contributors, and when the interest rate is considered, the disparity between the borrower’s annual income and the expected mortgage payment is more acute.10/

Other details of the fund’s operation are designed to assure that it operates equitably; such as preferences for lower income families, and perhaps limits on the loan amounts, but rather than focusing on the problems with these details it is important to clearly identify the main problem with this approach: severe financial sector problems are a likely result. Using (1) thinly-capitalized, new institutions in (2) an inflationary environment to on-lend funds that (3) are mobilized through tax and regulatory coercion for (4) a sector that has significant collection problems will not work. The likelihood of very costly failure is almost certain. The possibility that this financial scheme will contribute to private sector development is highly doubtful.

9/ Daily Times.
10/ This and other deficiencies are discussed in greater detail in the Business and Financial Analyst.
III. HOUSING FINANCE POLICY IN OTHER COUNTRIES

Other countries have had little success in implementing housing finance schemes through strictly public sector institutions such as the FMBN. There is no obvious reason why institutions of this sort should be wholly publically-owned. Nor is there a rationale for operations to be outside the purview of financial sector regulations, as is often the case and is currently the situation with the FMBN. The reliance on public sector institutions to finance the sale and construction of housing has proven to be extremely problematic and ultimately inefficient in other nations. Often such arrangements increase stagnation of the housing sector. Ghana provides an instructive example.

The housing sector in Ghana has many characteristics in common with that of Nigeria. The Ghanian shelter sector has been characterized by a high cost relative to income ratio, low housing quality, housing parastatals that are barely functional, and a bankrupted domestic inputs market existing in a financial environment of high inflation, low, unindexed nominal interest rates, and extensive direction of credit to unsuccessful parastatals. For the past three decades, two parastatal organizations, the State Housing Corporation (SHC) and the Tema Development Corporation (TDC), were the primary sources of housing production. The Bank for Housing and Construction provided mortgage finance. All are public sector organizations. Both the SHC and TDC have operated in deficit for several years surviving through the government subsidies that they receive. These public sector organizations have been ineffective in fostering the development of the housing and construction industry. As a result, the production of housing through these agencies has dwindled to only a few hundred units per year. The World Bank funded Urban project now under implementation in Ghana was designed to begin counteracting these problems, mainly through restructuring the housing production industry and housing finance system. The project will also provide technical assistance to perform detailed financial and institutional studies on the housing parastatals for developing a plan to reform and restructure the agencies. The main objective will be to privatize the agencies to the extent possible and improve their operating efficiency through commercialization.\(^{11/}\)

In Nigeria, as in other countries, the reliance on a large number of new private sector institutions with little or no nominal capital requirements is extremely risky under the best of circumstances. Usually the capital requirements for private sector mortgage institutions is at least four or five times higher than that authorized under the NHP. In other countries, such insufficient capital requirements have resulted in the government having to subsidize or “bailout” the private sector institution.

The ongoing U.S. Savings and Loan Crisis provides an example of the possible detrimental effects of undercapitalized firms operating in the financial sector. The S&L crisis can be traced back to policy decisions during the early 1980s which permitted the S&Ls capital to erode from a level considerably higher than those mandated by the NHP.\(^{12/}\) Traditionally,


\(^{12/}\) Colembe and Dembitz (1976) offer a thorough analysis of the capital requirements of S&Ls.
S&Ls lent funds on 20 to 30 year mortgages at fixed rates of interest and funded themselves through short term deposits; a structure very similar to that proposed for Nigeria's new lenders. During the late 1970s and early 1980s, higher inflation rates, and correspondingly, the higher interest rates that the S&Ls had to pay depositors sharply decreased earnings, eroding capital. At the same time that capital was eroded by increases in interest rates, financial deregulation phased out interest rate ceilings on deposits, allowed new lending practices, and increased the maximum size of insured deposits from US$ 40,000 to US$ 100,000. This new regulatory regime provided greater freedom of investment since the S&Ls were required to risk little of their own capital. Any losses beyond the low levels of capital in the firms would be absorbed by the U.S. government. While this type of structure insured the plentiful supply of mortgage credit and competitive mortgage lenders, it also induced much greater risk-taking by the S&Ls; risk-taking with capital they did not have. This risk-taking resulted in bankruptcy for many S&Ls; in the end the U.S. government will pay in excess of $200 billion so that the Savings and Loan Associations can meet their obligations.

The use of earmarked taxes to mobilize funds for low cost mortgage credit, as has been proposed in the NHP, is problematic in an inflationary environment. As an alternative to this forced savings scheme that expropriates savings, savings could be invested in indexed mortgages rather than in negative return government securities that, for example, the National Provident Fund (NPF) now holds. However, the inability of the NPF to account for the payments by contributors for the past five years is a cause for serious concern as to whether this type of change can be implemented. Investment in indexed mortgages would be a significant improvement for its savers, and is exactly what was done in the recent Bank project in Ghana. If done appropriately it would also eliminate the need for the additional tax on wage-earners. Once again, Ghana has confronted a similar policy situation.

Ghana has recently implemented a three year pilot housing finance project to establish the Home Finance Company Ltd (HFC) which would implement a mortgage system aimed at moderate and middle income households. The HFC is owned and operated on a commercial basis by the National Bank of Ghana. To finance the mortgage system the HFC floats 30 year mortgage backed housing bonds which are subscribed to by the government and the social security fund. The proceeds from the bonds are lent to approved Originating and Servicing Institutions (OSIs) for mortgage lending to households meeting specific eligibility requirements. Operating under a Dual Index Mortgage system (DIM), repayments are based on 25% of verifiable household income through a payroll deduction scheme, and the outstanding principal on all bonds and mortgages are indexed to inflation on a monthly basis. This system will finance about 2000 modest (1-3 rooms) housing units. Private sector developers will design, market and build these houses on a commercial basis. The program will also help finance the sale of about 1000 existing government-owned housing units to the private sector as part of a long-term effort to restructure the huge, inefficient housing parastatals. Exactly how this kind

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of lending can be made affordable to households yet simultaneously attractive to lenders is described further below.

While the sectoral and fiscal situation in Ghana is most easily comparable to Nigeria, indexed mortgage systems have also been introduced in Mexico and Poland. The housing sector in Poland, as in Nigeria, is characterized by high nominal interest rates, high inflation, a high cost relative to income ratio, low housing quality and large subsidies. The transition from a central to a market economy has exacerbated the situation. To confront these problems, expand the supply of housing, and make housing more affordable, the government in cooperation with the World Bank housing project has established a dual indexed mortgage system that will be financed through a Mortgage Fund established in the Housing Development Bank (BUDBANK). The purpose of the Mortgage Fund is to provide a stable source of long-term funding for housing that replaces the large interest rate subsidies that were given. It was designed to help encourage commercial and savings banks to underwrite mortgages for individuals, and develop mortgage conditions to use in the prevailing economic conditions in Poland. The Mortgage Fund will make long-term loans to participating banks on commercial terms. Initial capital contributions for the Mortgage Fund will come from the Government, the World Bank and other multi and bilateral sources. After several years of operation the Mortgage fund will raise funding through the sale of bonds. During the first six years the Fund is expected to disburse about $400 million and to finance some 27,000 new housing units.

Similarly, in Mexico, high nominal interest rates during the 1980s made standard fixed payment mortgages with high initial payments unaffordable to most home borrowers. In 1984, the Central Bank implemented a new “dual rate” mortgage instrument designed to make mortgage lending more attractive in an inflationary environment. In 1986 the World Bank made the first of four housing loans to various financial agencies. While Ghana and Poland have only recently implemented indexed mortgage systems, Mexico has been experimenting with such systems for almost a decade. In Mexico, indexed mortgage schemes are now an accepted means to finance housing. The World Bank has most recently supported these operations with the 1992 loan to the Housing Fund for Commercial Banks (FOVI).

FOVI is a trust fund within the Central Bank which was created to channel federal funds from the Central Bank to commercial banks to finance low-cost housing for low-income beneficiaries. FOVI is financed through loans from the Central Bank, federal government transfers, and retained earnings. The commercial banks acquire FOVI funds through a funds auction and then offer mortgage financing to the home buyer at a variable rate of interest equal to the average cost of funds. The interest rate on all FOVI loans is recalculated monthly to reflect changes in the average cost of funds. The loan amount is linked to the homebuyer's household income, and the initial monthly payment is established as a percentage of the average loan amount. Subsequent monthly payments are adjusted as the minimum wage increases. If adjusted monthly payments are not sufficient to cover the accrued interest, the difference is capitalized, and the loan term is extended. However, if the life of the loan extends more than 20 years, FOVI assumes the outstanding balance. As part of the World Bank project, FOVI is currently working on a new indexation scheme that will reduce the contingent liabilities resulting
from the 20 year limit of the mortgage term. Over the next five years, FOVI is expected to finance 32,000 housing units annually at a yearly investment cost of US$400 million equivalent. Table 1 summarizes the indexed mortgage systems under implementation in Poland, Mexico, and Ghana.

Table 1
Dual Indexed Mortgage Systems

<table>
<thead>
<tr>
<th></th>
<th>Expected Inflation Rate (%)</th>
<th>Downpayment (%)</th>
<th>Real Interest Rate on Loans (%)&lt;sup&gt;14/&lt;/sup&gt;</th>
<th>LTV (%)</th>
<th>Loan Maturity (years)</th>
<th>Spread Over Cost of Funds (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>40</td>
<td>25</td>
<td>6</td>
<td>80</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>Mexico&lt;sup&gt;15/&lt;/sup&gt;</td>
<td>12</td>
<td>10-20</td>
<td>6.8</td>
<td>80-90</td>
<td>12-15 25 max</td>
<td>5</td>
</tr>
<tr>
<td>Ghana</td>
<td>25</td>
<td>20-30</td>
<td>2.5-3.5</td>
<td>80</td>
<td>15-25</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: SARs (Poland, Ghana); SAR and Country Department (Mexico).

<sup>14/</sup> The real interest rate varies with the average cost of funds.

<sup>15/</sup> This is the actual 1992 inflation rate for Mexico.
IV. AN ALTERNATIVE HOUSING FINANCE POLICY

Addressing the Affordability Problem

Among lower and moderate income families, the primary impediment to affordable housing finance arises when inflation makes housing unaffordable at market rates of interest. Under conventional lending instruments such as Fixed rate Mortgages (FRM) and Adjustable Rate Mortgages (ARM), operating in an environment of high inflation and nominal interest rates, payments can quickly rise to a level that is unaffordable for most home buyers. The underlying problem — commonly referred to as the repayment tilt problem — is that loan repayments are heaviest in real terms at the beginning of the contract period.

In most countries, the mortgage repayment tilt problem has been treated in one of two ways: (1) as an affordability problem that requires subsidies; or (2) as a contracting problem that can be solved by redesigning the mortgage instrument. In principle, this second approach attempts to deal with the concern of lenders by ensuring that the real value of repayments is not affected by inflation. It is discussed more fully later. But, first consider the former approach—credit subsidies — as a means to address the inflation-caused affordability problem.

Credit Subsidies as a Response to High Interest Rates

Most countries in the world have at one time or another used interest rate subsidies to reduce mortgage borrowing costs. Through this approach the cash-flow problems of households are solved by “re-tilting” the early payments back to what they would have been without inflation. Credit subsidies, such as those proposed by the NHP, are used to “buy down” the cost of housing finance at below-market interest rates. While this practice is widespread and attractive to borrowers, there are at least three problems with this approach that make subsidies an inefficient method of increasing housing affordability.

First, below-market credit provides a subsidy to solve what in most cases is a contracting problem. While precisely measuring the real amount of a credit subsidy is difficult because of the complexity of projecting inflation and the real interest rate, the per unit subsidy level necessary to eliminate the inflation-related tilting of repayment is certainly very large. For instance, with an inflation rate of 30 percent and a real interest rate of eight percent, the subsidy necessary to eliminate the tilt problem is on the order of 60 to 70 percent. In Table 2 the implied subsidy rate is given for a 15-year mortgage with various assumptions about real interest

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16/ This section is based on Buckley et al (1992).

17/ Housing problems for the absolute poor — those families who cannot afford the minimum standard of shelter that is available — is most effectively addressed by improvements in the functioning of basic infrastructure supply and/or providing tenure security. The encouragement of homeownership through a highly subsidized credit mechanism is not the most practical direct method of providing shelter for the very poor. Rather than improve the efficiency of the housing system, it merely increases the size of the transfers within it. For a detailed analysis of housing policy for low income groups see World Bank (1993).
rates, the expected inflation, and the nominal interest rate charged. The last column shows the subsidy rate required to get mortgage payments back to the same proportion of family income put towards payments when there is no inflation. Affordability problems resulting from inflation can be addressed more efficiently through modifications in the mortgage contract. At rates of inflation lower than 50 percent a year, carefully designed indexed mortgage schemes can eliminate the cash-flow costs imposed by high nominal payments, and can do so without subsidy.

Table 2
Credit Subsidies Implied by Different Interest Terms

<table>
<thead>
<tr>
<th>Expected Inflation Rate:</th>
<th>Real Interest Rate:</th>
<th>Subsidy Rate Needed to Eliminate Tilt:</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>8%</td>
<td>53%</td>
</tr>
<tr>
<td>30%</td>
<td>8%</td>
<td>71%</td>
</tr>
<tr>
<td>30%</td>
<td>10%</td>
<td>68%</td>
</tr>
<tr>
<td>40%</td>
<td>8%</td>
<td>77%</td>
</tr>
<tr>
<td>30%</td>
<td>6%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Second, interest rate subsidies reduce real repayments throughout the life of the loan rather than shifting the repayment tilt by reducing the higher costs during the early years of a loan when the default risk is highest. As a result, with a subsidy, interest payments in the later years of the loan become trivial rather than just small. For example, instead of being required to allocate as much as 60 percent of income to repayments as could be the case with a fixed rate loan, a subsidy sufficient to reduce early payments to affordable levels would call for repayments in later years that account for one or two percent of income. Clearly this kind of subsidy mechanism gives beneficiaries larger than necessary subsidies.

Third, if the objective of the subsidy is to increase housing consumption, then, because credit is at least partially fungible, subsidizing credit is less efficient than is subsidizing the housing expenditure itself. It is inefficient because over the long-term such a subsidy permits households to substitute subsidized credit for their own savings and, thereby, frees their savings to be used for other purchases. Hence, it allows the subsidy to be spent on activities other than those it was intended to encourage. Consequently, the efficiency of the subsidy in inducing the intended behavior is diminished.
Indexation as a Means to Address the Mortgage Affordability Problem

Since mortgage contracts are generally written in nominal terms, they can quickly become unaffordable in an inflationary environment. To make mortgages affordable mortgage contracts must address the financing problems that result from inflation. From this perspective, the objective for redesigning mortgage contracts is to eliminate financial constraints that impede the affordability of housing for lower and moderate income households. In Nigeria during the mid 1980s when inflation was five percent per annum, the effect of interest rates on mortgage contracts were trivial; but at current inflation rates of about 30 percent, interest rates are so high that mortgage financing is unaffordable in nominal terms. The objectives of adjusting mortgage repayment schemes under inflation are not to produce more housing, although that outcome will often result. Rather, it is to provide a financing vehicle so that those who can afford to, and so desire, can purchase homes.

As a means of reducing mortgage affordability concerns, rather than housing affordability problems, indexation has much to recommend it, particularly relative to credit subsidies. With indexed repayments long-term mortgages can be attractive investments to long-term investors. However, the importance of credible mortgage design to the success of such efforts and the likelihood that such instruments will not perform in financial environments with extremely high and volatile levels of inflation cannot be exaggerated. Hence, the costs and benefits of mortgage indexation depend on the design of the instrument. Because of housing’s durability, mortgage design must take real as opposed to nominal repayments into account. Otherwise, the cash flow problems of mortgage contracting, rather than rates of return on investment, will dominate decision making with respect to housing investment. Equally important in mortgage design is the recognition that solving the mortgage cash-flow problem through indexation exposes the lender to another risk, i.e., that real wages will permit higher nominal payments to be made. In some environments this risk is a large one and failure to price or reward this kind of risk-taking will result in a contracting process that is not credible.

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18/ Three types of indexed mortgages are commonly used. Each type has different advantages and drawbacks. Mortgage payments indexed to prices lower the high front end cost of a mortgage. The real interest rate is set when the loan is made, and both the repayment and the outstanding balance are linked to the price index. If the burden of real mortgage repayments increases, repayment becomes more uncertain, and the lending institution is faced with repayment difficulties.

Mortgage systems indexed to wages protect borrowers from the sudden shocks that can occur if real incomes fall, since the portion of income devoted to repayment remains the same. Each year as wages nominally increase, so do the monthly payments and vice versa. This type of indexation can be disadvantageous to the lender since the real value of the loan is uncertain.

A dual system of wage and price indexation is designed to address the concerns of both borrowers and lenders. Mortgage payments are indexed to wages so that the borrower never has to pay more than a comfortable proportion of his income. The loan balance is indexed to prices so that any portion of interest and principal due over and above a given portion of income is capitalized into the loan outstanding. The loan maturity varies to permit shortfalls in real repayments to be offset by extending the life of the mortgage or earlier real repayments to pay off the loan more rapidly. This protects the lender from substantial losses. As noted earlier, such systems have been introduced in Ghana, Mexico, Poland; they have also been introduced in France.
In countries with high levels of inflation such as those of Latin America, mortgage indexation was introduced to ameliorate housing affordability problems. The movement away from the use of nominal-interest rate, level-payment mortgage schedules (as occurred Chile in 1959, Brazil in 1964, Colombia in 1972, and Argentina in 1976) was the result of governments’ selective credit policies to lower costs rather than market participants modifying their contracting methods.\(^{19}\) While the kinds of indexed contracts introduced were a cost-effective means of restructuring payments to lower payments and redistribute the high real initial costs, they were not an effective means of introducing the kinds of credible contracts that would induce investors to be willing to share the risks posed by indexation. Ex post, in every case except Columbia, the approaches that have been implemented have experienced serious problems.

In principle, indexed mortgage instruments afford a way for modifications in financial contracts to replace interest rate subsidies. However, considerable care needs to be practiced in their use because these loans allow nominal loan balances to increase over time, and thereby expose the lender or government to potentially large contingent liabilities. In Nigeria there has been some experience with the issues involved. Merchant bankers in Lagos have already developed and issued a convertible bond scheme to finance real estate development. Most of the principles involved could be applied much more simply to innovations in the form of the mortgage instrument. An indexed mortgage system can operate to counteract credibility problems that effect the housing finance system and can make housing affordable to lower and middle income families who otherwise would not be able to afford to buy a house. However, as discussed previously, great care must be taken in the design of an indexed mortgage system within a country’s macroeconomic environment.

Consider a household with a family income of \(N3,000\) per year, and paying 20 percent of this initial income for mortgage payments on a 30-year fully-amortizing fixed-rate loan. In a world of zero inflation, and a 3 percent real interest rate, this payment would be sufficient to finance a loan for almost \(N12,000\), an amount four times annual income. In a free market if inflation increases to 10 percent, nominal lending rates rise to approximately 13 percent to compensate the lender for the erosion in the value of later payments. With the same share of income the household can now afford a mortgage of only \(N4,500\), an amount 1.5 times of annual income. Put another way, when the inflation rate increases by 10 percent, households must more than double the initial share of income spent on mortgage repayments in order to finance the same amount of real debt. At the same time, however, the real payments required in the latter years of the loan are cut in half.

Given the scale of the increase in initial payment burden that occurs with only a 10 percent increase in the rate of inflation, an increase which is much less than the 50 percent average annual rate of inflation experienced by developing countries over the 1983-1987 period, it is obvious that under typical inflationary conditions in developing countries, mortgage

\(^{19}\) See Fishlow (1978) for a discussion of the policy objectives of indexation in Brazil.
financing is not affordable for most families. In Nigeria, where housing is built from imported inputs making it expensive to start with and inflation pushing up the cost of finance, housing is increasingly unaffordable. Indexation is a viable alternative to overcome macroeconomic effects that make mortgage finance unaffordable.

While mortgage indexation has been tried with limited success in a number of countries as an alternative to lowering interest rates, its failings have not been the result of the naive application of an abstract economic concept to "real world problems." Nor have the failings been the inevitable consequence of "surrendering to inflation." Rather, problems have arisen for two reasons. First, under the extremely high rates of inflation that have occurred in Latin America, indexation of mortgage repayments provides little help. When inflation rates exceed 50 percent per year, even indexed instruments cannot adjust fast enough to keep up with the inflation rate. Second, there have often been inherent flaws in the way repayments have been implemented. Mortgage systems often did not adequately address the effects that real wage volatility could have on loan values. In many cases only price indexes, which made no provision for the real wage shocks that occur, were used or only wage indexes, which over compensated for real wage shocks, were used. In principle, instruments exist which can provide sufficient cushioning against these shocks and can make housing finance both affordable and in most circumstances sustainable by financial means rather than with government transfers.

Simple models can be used to determine whether this type of instrument can be effectively implemented in a particular economic environment. Nevertheless, the difficulties in implementing an indexed mortgage instrument should not be understated. Many technical questions that require equally technical rather than political answers must be addressed for these kinds of instruments to work and be sustainable. Otherwise, indexed instruments can easily become an even more circuitous way of providing credit subsidies.

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21 While any simple measure of the limits to indexation’s effectiveness is arbitrary, our cut off of 50 percent per annum as an upper limit receives some indirect empirical support from Cardoso and Fishlow (1989). In a cross-sectional study of 17 Latin American countries, they show that at a rate of inflation of less than 50 percent per annum there is no systematic effect of inflation on growth—except in one period during which it is positive. They also show that if the sample is not limited to inflation rates below 50 percent, there is a negative correlation between inflation and growth.

22 For example, if the contract is viewed as a mortgage with a put at maturity, the put would be priced by a well-functioning market, in principle. Alternatively, even if the state accepts this contingent transfer, it is clearly a more effective way to subsidize mortgage credit, if that is desirable, than is an interest rate reduction.
CONCLUSION

The primary prerequisite condition necessary for the development of a well functioning shelter sector in Nigeria is a credible macro economic environment with a free exchange rate and declining inflation. At the sectoral level a prerequisite is to end unfair competition between private and public firms. The private sector cannot compete with public sector institutions receiving massive government subsidies. And, while this is a necessary condition for a more efficiently run shelter sector, it is not sufficient. Even if public sector firms were eliminated, the development of a housing finance system based on significantly underpriced credit will only create pressures for favoritism in access to the funds based on non-economic criteria. Such a result is the opposite of what a well-functioning market would produce. Hence, equally important as the privatization of state housing producers is the need to privatize the housing finance system, and base the delivery of mortgage credit on commercial, and well-capitalized, rather than coercive means. If the latter step were carried out, then these commercially-sound institutions could develop a sustainable means of providing affordable finance. Adaptions to the National Housing Policy are available, and have recently been introduced in other countries such as Ghana, Poland, and Mexico.

On the other hand, proposals made to expand the supply of finance and state housing corporation activity in Nigeria will extend the public sector in ways that have not worked in some basic ways. Indeed, the most important of the proposals adopted in the NHP are inconsistent with both the broader approach taken in the Structural Adjustment Program (SAP), and the efforts to develop greater private sector participation in the economy. Proposals such as directed credit and increased tax approaches were often followed in other countries during the lower inflation days of the late 1970s and early 1980s. Like these proposals followed elsewhere, the Nigerian proposals also date from the low inflation days before the SAP began in 1986. Nigeria, in fact, is introducing and strengthening policies that other countries have eliminated or significantly restructured while undergoing structural adjustment programs. Hence, it is not clear that this is an appropriate environment in which to introduce financial innovations (such as indexed mortgages) to make mortgages more affordable, particularly if these instruments would be used to fund clearly inefficient suppliers. Therefore, before making the housing finance system more private sector oriented, it would be prudent to make sure that the objective of such a policy is to exploit the enormous efficiency gains for the sector rather than just increase the size of the transfers to the sector.

The Report of the Special Committee on New National Housing Policy, July 1985, contains the recommendations implemented in the 1991 policies. It is worth noting that the inflation rate at the time of these recommendations in 1985 was 5 percent per annum, so that the low interest rate proposals of the recommendations were much more innocuous than they are now when inflation is much higher.

Such improvements are necessary according to the findings of papers prepared for a recent development conference-"Ameliorating the Impact of the Structural Adjustment Program on Housing and Environmental Development in Nigeria," by the Center for African Settlement Studies and Development, January 1992, Ibadan, Nigeria—which argue that overcrowding has increased substantially and housing conditions have deteriorated generally since 1986.
While the objectives of the NHP are laudable, the measures proposed to achieve these objectives will most likely cause serious problems when implemented. As currently structured, the National Housing Fund, the financial component of the NHP, is an unsustainable transfer that will create significant problems for an already troubled financial system. It will also impose significant costs on wage earners who will pay for this system with the expropriation of the return on as well as a portion of their retirement savings. Finally, it is almost certainly a regressive system that will encourage an increased politization of the shelter sector. Hence, rather than contributing to a much greater private sector role in the housing sector, this policy will have the opposite result: it will broaden the public role in the financial sector, increase the public claims on wage earners, and it will likely reinvigorate public housing producers. Alternatives are available and should be considered.
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