Housing Policy in Developing Economies

Evaluating the Macroeconomic Impacts

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Discussion Paper

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The World Bank

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ABSTRACT

This paper presents a view of the role of the housing sector in developing countries which emphasizes the potentially high macroeconomic costs of inappropriate housing policies. Traditional public finance perspectives on the role of the housing in the economy focus on efficiency and equity implications of the rather modest levels of government spending in the housing sector. The paper points out that this traditional approach is misleading in that it is less government's spending in the sector than its role in defining regulatory frameworks, pricing policies, and policies affecting the financial sector that comprise the major instruments for influencing the performance of the housing sector and, in turn, the way its performance affects the macroeconomy.

The paper presents a simplified framework for analyzing how housing policies influence the housing sector and the macroeconomy. Simple applications of the framework suggest that the macroeconomic implications of housing policy choices can be of major importance. This is emphasized by two case studies, of policies in Argentina and Poland, where recent policies appear to have had major impacts on broad macroeconomic aggregates such as levels of investment, price and wage levels, and savings rates.

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HOUSING POLICY IN DEVELOPING ECONOMIES:
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I. INTRODUCTION

Housing is a major sector in any economy. Viewed in terms of annual flows, investment in housing typically comprises from 2 to 8 percent of GDP and from 15 to 30 percent of fixed capital formation. In terms of stores of wealth, the value of the housing stock is enormous. In many countries it is the largest single component of reproducible wealth.^{1/} For developing countries each of these ratios tends to increase over a broad range of income responding to underlying patterns of housing demand.^{2/} In the past, growth in the economic importance of the housing investment rose in response to rising real incomes in country after country, most often with little or no explicit intervention by governments.

In contrast to its importance as a source of both capital formation and wealth, housing does not often figure heavily in the fiscal affairs of governments. During recent years, for example, the housing sector has typically accounted for only about 2 percent of government expenditures in developing countries.^{3/} Government expenditures on the sector also appear to be highly idiosyncratic across countries. Empirical analysis of government expenditures on housing suggests that they are only

1/ While national wealth data for developing countries are scarce, available data indicate that for India housing comprises the largest single component of reproducible assets. For Mexico, housing accounts for about 31 percent; and for Korea, housing recently comprised some 23 percent of total wealth--nearly 50 percent of reproducible wealth. In 1975, the stock of housing value equaled 85 percent of Indian GDP. While the value of a stock (housing's asset value) is of course not strictly comparable with that of a flow (GDP), it may nevertheless be an interesting ratio, as we hope to show, when policy induces relative price effects which in turn generate wealth effects. See Goldsmith for a similar stock/flow comparison.

2/ See, for example, Malpezzi and Mayo (1985) for a discussion of how aggregate housing investment reflects underlying patterns of household demand for housing. Like Burns and Grebler's (1976) work, their results suggest that for countries with a per capita income less than US\$8,000 for 1981 the share of GDP allocated to housing should expand with increases in GDP.

3/ See, for example, International Monetary Fund, Government Financial Statistics, Washington, D.C., 1986, p. 56.

weakly related to rate or the level of economic development or urbanization.^{4/} Against this background it is easy to conclude that government policy in the sector is of relatively low priority, and as likely to be dictated by cultural proclivities or politics as it is by economic factors. This view is incorrect. It stems from too narrow a measurement of the role of the government in the sector.

To understand how the housing sector functions, and to evaluate policies in this sector, the "off-budget" operations of governments are far more important than traditional "on-budget" expenditures. In fact, as our case studies show, these unmeasured transfers sometimes augment and sometimes more than offset the explicit transfers in budget documents. In one of our case studies, Argentina, the implicit subsidies to the sector exceed the direct subsidies, while in the other, Poland, the large share of government expenditure on the sector is more than offset by even larger implicit regulatory taxes. In both cases, and we suspect in most developing countries, traditional fiscal perspectives of the sector's role in the economy are very misleading.

As this paper will demonstrate, a broader and more useful view of housing policy must trace through the effects of policies on both the flow of resources to the sector, and on housing's store of wealth. This broader view should take into account the major ways in which policies can affect the performance of the housing sector through defining regulatory frameworks, pricing policies, and financial policies (particularly credit allocation policies). Such policies can influence how the housing sector affects the performance of the rest of the macroeconomy. If the policy framework is inappropriate, not only will the housing sector fail to work right, but it will retard the performance of other economic aggregates, including income, employment, savings and investment.

The stakes of policy reform regarding the housing sector often go far beyond narrow sectoral impacts. To give some sense of how "large" these stakes might be, consider the following:

- The present value of the welfare costs of Argentine housing policy are on the order of 6 percent of GDP;
- Polish housing policy has many of the analytical characteristics of a 10 percent tax on labor income; and

4/ Tait and Heller (1982) empirically analyze eleven categories of government expenditures in 92 countries. They present "predicted" and realized values of government expenditures for each of the different categories. The coefficient of variation for their models' predicted value of government expenditures on housing and community development relative to the realized value was the second largest of all the sectors.

- Finally, from a recent analysis of the effects of credit regulations in Colombia, it can be inferred that credit policies to support the housing sector account for more than one-fifth of the inflation rate.^{5/}

While the economy-wide effects of policy in this sector are clearly significant, they are also less evident than are explicit trade, tax or financial policies. The implicit subsidies and taxes imposed on this sector often are the by-products of the pursuit of other policies to allocate resources and credit. The types of policy controls used can vary widely depending upon a range of historical, cultural, developmental or financial circumstances. Hence, it is difficult to generalize about the details of the role of the sector in the economy. Nevertheless, the sector ubiquitously accounts for a large part of wealth and the capital stock. In addition, in many countries, there has recently been a fall in the share of GDP and fixed-capital formation in housing. Rather than continuing to expand as economies have grown, housing investment has contracted. This behavior is in sharp contrast to the general expansion that characterized earlier periods.

We want to examine some of the reasons why this reduction in resource allocation to the sector may have occurred. In particular, we want to distinguish between, on the one hand, the kinds of off-budget policies that could produce such shifts in resource allocation and, on the other hand, the kinds of changes in economic conditions that may have induced such shifts. Shifts of the latter sort are exactly the type that can help minimize the current costs of stabilization policy. However, policy-induced shifts can have the opposite effect. They can reduce the efficiency of the financial system and significantly increase the welfare costs of government regulation. Moreover, as long as only traditional fiscal budgeting perspectives are applied to the sector, attempts to improve traditional budgetary balances may impose larger welfare losses on the economy.

In the second section of the paper we document the recent shift in the relationship of the housing sector and the macroeconomy. Following that, we present a simple framework that explains how a policy focus on just government expenditures or resource flows, rather than prices, could have interacted with the changed economic environment to result in less investment in the housing sector. We use the framework to consider examples of "typical" policies that would have produced the observed results. Our discussion initially is at a stylized level because we want to emphasize why such a policy-induced distortion in resource flows may be pursued. Finally, we consider more concrete examples of these policy-induced distortions, and we analyze some of the costs of these policies. In two case studies we show how government policies concerning the housing sector have had dramatic negative consequences both for the housing sector and for the broader economy.

^{5/} See Correa (1986).

II. THE HOUSING SECTOR AND THE ECONOMY SINCE THE MID-1970s

During the 1970s a series of economic shocks jolted the world economic system, leading by the latter half of the decade to an environment characterized by high inflation and high and volatile nominal and real interest rates.^{6/} These conditions added a significant new element of risk to saving and investment decisions. Perhaps more importantly, the new environment carried with it a new and largely unmeasured shift in the marginal incentives generated by government policies. As a result of these changes, government-controlled financial and fiscal mechanisms that had previously permitted developing countries to replicate and even accelerate the capital formation patterns of developed economies no longer produced the same results.

Financial institutions, in particular, have been dramatically affected by the changed environment. It appears that in many developing countries longstanding trends of increased financial deepening were first slowed and then reversed. For example, consider how the behavior of one frequently used measure of financial deepening, the ratio of M2, broadly defined monetary holdings, to GDP, has changed in recent years.^{7/} Comparing this ratio for a sample of developing countries over the 1965-73 period with the 1973-85 period we find that in the first period fewer than six percent of the countries experienced a reduction in the ratio of M2 to GDP. Over the 1973-85 period, in contrast, more than fifty percent of the countries

^{6/} The World Bank Policy Paper on Financial Intermediation (1985) shows that for a sample of 35 developing countries the average inflation rate over the 1974-84 period increased from 7 percent to 25 percent per year.

^{7/} Since McKinnon (1973) the M2 to GDP ratio has been used as one of "the simplest measures of the importance of the monetary system in the economy." p. 91.

experienced a reduction in this ratio.^{8/} In the other economies financial intermediation contracted, sometimes very sharply.

Moreover, this simple measure of financial deepening tends to understate the scale of the disruptions of financial systems. Countries that appear to be continuing the process of financial deepening according to this measure have also experienced significant problems within their financial systems. India, for example, whose M2/GDP ratio had the sharpest percentage increase over the 1973-85 period, had a stagnating share of savings in financial assets, and a commercial banking system whose financial position deteriorated sharply since the mid 1970s.^{9/} As a recent World Bank paper on financial intermediation shows, the profitability and solvency problems of financial institutions are significant and pervasive across developing countries.

Very high real borrowing rates, severe balance of payments problems, and much higher inflationary "taxes" on financial savings have made it less attractive for savers to provide funds to financial systems. In addition, government demands on this shrinking or stagnating financial base have increased significantly.^{10/} The cumulative result has been an increasing competition for a relatively (and sometimes absolutely) smaller pool of funds. For borrowers who have less favored access to credit markets, such as households, the result has been less credit.

8/ An Annex to the World Bank Financial Intermediation Policy Paper (1985) develops measures of M2 to GDP in 35 selected developing countries for specific dates up to 1981 to 1983. For this paper we took the most recent data available, either 1984 or 1985, and compared 1973 with 1984 or 1985 figures. These figures were then compared with those in the annex for the 1965-73 period. Seven countries were missing observations for the earliest period. Observations from the World Development Report 1987 (WDR) were used for 4 of them. Table 25 of WDR indicates that between 1965-80 12 percent of the 65 developing countries for which there are data experienced no increase or a decrease in broadly defined monetary holdings as a share of GDP. Over the 1980-1985 period over 30 percent of 75 developing countries for which there is data had a similar experience. Hence, for the latter period, the number of developing countries that encountered financial deepening problems increased. Moreover, it is worth emphasizing that for many countries financial deepening was higher in 1975 than 1980 so that the 30 percent figure understates the reduction in the rate of financial deepening. Of course the M2/GDP ratio is only a simple proxy for the level of financial deepening.

9/ See Morris (1985) or Chakarvarty (1986).

10/ See Table 23 The World Development Report (1987). It shows that between 1972 and 1985 the average deficit of developing economies increased by almost 50 percent to more than 4 percent of GDP.

There has long been a view in development economics that these kinds of financial system problems will result not only in disintermediation from financial systems but also in more investment in assets such as housing as speculative, "unproductive" inflation hedges. Hence, many might expect the aforementioned changes to have induced more, rather than less, housing investment.^{11/} However, unlike most other substitutes for financial assets, housing investments are so large and indivisible that for most households purchasing requires finance, and finance has been limited. In addition, for those who can find and afford such financing there are often other regulations--such as rent controls--which make it preferable to leave housing units vacant rather than to rent them to those who could afford to rent but not to buy. Finally, in many developing countries institutional development is such that the costs of clear and enforceable titles represent large fixed costs which discourage such investment. In the end, however, we do not know whether the shift out of financial assets will lead to more or less housing investment. Whether housing's characteristics (relative to the characteristics of other non-financial assets) are such that investors are constrained from making such investments, despite increased incentives to move into real assets from financial ones, is ultimately an empirical question which we have analyzed in an appendix.

In the appendix, regression equations are estimated which relate housing investment as a share of (1) GDP and (2) gross fixed capital formation (GFCF) to GDP per capita, using a functional form previously employed by Burns and Grebler (1976). Regressions are estimated for two periods, one centered in the mid-1970s; the other centered in the early 1980s. Figures 1 and 2 present the results of the estimated regression equations from the appendix. The figures indicate the sorts of shifts in housing investment that have taken place. In the case of housing investment to GDP (shown in Figure 1) the shift downward in housing investment varies from about 0.4 percentage points at a per capita GDP of \$1,000 per year in US\$ 1981 (11 percent of the estimated mid-1970 value of RES/GDP at \$1,000) to a maximum of about 1.8 percentage points at a per capita income of \$9,800 (as a percent of the estimated mid-1970 value of RES/GDP at \$9,800). In the case of housing investment to GFCF the downward shift varies from about 2.9 percentage points at GDP per capita of \$1,000 to about 4.9 percentage points at GDP per capita of \$9,300 per year; throughout the range of GDP per capita, this represents a downward shift of about 17 percent of the estimated mid-1970 value of RES/GFCF. The observed shifts in housing investment indicate that housing declined as a proportion of GDP, and that countries' investment portfolios underwent a shift away from housing during the latter half of the 1970s.

Clearly, the macroeconomic causes and consequences of such shifts in individual countries will be different depending upon the specific policies pursued. In addition, the complexity of the mechanisms by which macroeconomic effects are propagated is considerable. As was said earlier

^{11/} See Taylor (1981).

Housing Investment and GDP

Figure 1

Housing Inv. and Capital Formation

Figure 2

we do not attempt to explain what caused the observed reduction in housing investment. It is not difficult to identify perspectives^{12/} that would lead to either an increase or a decrease in housing investment. Ultimately, we are agnostic as to what caused the reduction in housing's share of fixed capital formation. We are not, however, agnostic about the effects of the policies that could be expected to lead to such a result. These policies are costly for both the economy and the sector, and because they are policy-induced they are, by definition, more amenable to change. Consequently, we first consider why these kinds of policies may be pursued, and then we focus on the kinds of broader economic effects they can induce.

III. THE INTERACTION OF REGULATORY REGIMES WITH THE CHANGING MACROECONOMIC ENVIRONMENT: IMPLICATIONS FOR HOUSING INVESTMENT

Our perspective on the broad relationship between regulatory policy and the housing market follows the work of Penner and Silber (1973), and the application of this approach to housing finance issues in developing countries by Renaud and Buckley (1987). It focuses on housing as an asset, and the effects of regulations and controls on the substitutability between assets.

In this approach, one extreme is represented by economic systems that are highly developed and have markets that rely heavily on interest rates and prices to allocate access to credit or housing. The regulatory systems of these economies could, for example, be assumed to cause a perfectly elastic supply of credit for every sector at the market rate of interest. In this case, all credit instruments are perfect substitutes. At the other extreme are economic and formal financial systems that are more representative of developing countries. These systems rely almost

^{12/} For example, according to a fairly traditional perspective, the observed shifts may be exactly what should be expected if developing country financial systems did not ration credit: the world-wide increase in real interest rates induced a reduced demand for long-lived assets such as housing. On the other hand, as Bulow and Summers (1984) show, expected asset life is of far less importance in determining investment decisions than is the uncertainty about relative asset prices. They show that it is the behavior of relative asset prices, rather than the return to the asset, that is the dominant factor in explaining the return to investment. If their results are broadly applicable, then housing's historical relative price stability should have induced more rather than less housing investment.

exclusively on quantity controls to allocate credit and/or resources. The supply of formal credit to a particular sector can be assumed to be perfectly interest-rate inelastic at a level determined by a policy-maker. There is no possibility of substitution between financial assets.

In this kind of system, if the quantity of mortgage credit contracts and interest rates is not permitted to increase, households are unable to borrow as much as they would like to invest in housing. Increasing the quantity of mortgage credit supplied at market interest rates would reduce the resulting disequilibrium. However, this could only be accomplished by bidding resources away from another sector. In most developing economies, even before the contractions in financial deepening noted earlier, such bidding for resources by households has been prevented by regulatory policies. Instead of allowing competition for funds, financial policies in most countries attempted to direct credit to what were thought to be high pay-off investments.^{13/} For example, until the 1980s India's highly centralized credit system effectively fixed the supply of formal finance for the housing sector at a low level which was not sensitive to interest rates. The policy rationale was that housing and infrastructure should not be allowed to bid resources away from other more productive sectors. Poland's constraints on housing investments are representative of many centrally planned economies, and they result in the same kind of severe limitations on the sector.

Policy-makers recognize that such regulatory constraints can play a significant role in the incentives confronting individuals, and they no doubt like the degree of control over the economy it gives them. However, the incentives for maintaining such systems go beyond the leverage this kind of system gives to policy-makers in channeling resources.

Another important rationale for reliance on quantity-controlled financial systems is that such systems can make the economy less sensitive to real-side economic shocks, e.g., shocks that shift the demand for credit curve. In controlled systems, reductions in demand (due, for example, to a fall in income) are more likely to be reflected in price reductions than in changes in output. For many low-income economies that are subject to real-side economic risks, this use of controls to help distribute economy-wide

^{13/} The Financial Intermediation Policy Paper (1985) reviews the problems of directed credit policies, suggesting that the solvency of one third of development financial institutions in developing countries is in serious doubt.

risks (for example, that rains arrive), is important. See DeLong and Summers (1986). However, while this type of system is effective in allocating the risks of relative price changes, it is less effective in dealing with financial disturbances which shift the credit supply curve.^{14/} As a result, changes in financial conditions (e.g. increases in inflation, uncertainty, etc.) can have a greater effect on output than they would in a less regulated economy. In addition, the sectors most acutely affected are those which are most reliant on finance, such as housing and infrastructure investments.

A final rationale for the reliance on quantity-controlled financial systems stems from the "fine-tuning" perspectives that have long played a part in macroeconomic management policy in both developed and developing countries. In more developed economies, analysts have argued in favor of such segmentation and control over the credit markets because such systems were thought to make macroeconomic management easier, see Modigliani (1980). According to this line of argument, portfolio restrictions on mortgage lenders, for example, could be used to "cool the economy off" more easily. Interest rate ceilings on the deposits offered by mortgage lenders would cause funds to be drained from them whenever market interest rates increased. The result would be that investment in the housing sector would fall off sharply as mortgage borrowers were rationed out of the capital markets by the inability of their intermediaries to compete for funds. Changes in the availability rather than the price of credit would be the channel through which monetary policy would reduce both housing and aggregate demand. Housing investment, according to this approach, serves as the cyclical handmaiden of stabilization policy. Cyclical cutbacks in housing expenditures under this approach may be more severe, but they should also be relatively short-lived. The "credit crunches" that generated the cutbacks in housing expenditures have been argued to have played "a constructive role" in the U.S. in precipitating necessary economic downturns. See Harberger (1970).

There are two problems with the reliance on this market segmentation policy perspective to shape policies in developing countries in the current economic environment. First, while such controls may help protect against the risks of relative price changes, they perform less well when risks from the monetary side of the economy increase. These latter risks have increased throughout the world. As a consequence, these systems, as noted earlier, are under stress and not allocating resources very effectively. Second, even if one were to subscribe to a "fine-tuning" rationale for a quantity control system, in many countries the continual rationing out of residual borrowers cannot be described as cyclical. As is

^{14/} Gottlieb (1976) shows that for many Western European economies and the U.S. the production of housing has been one of the more volatile components of GDP. Hence, control of credit to this credit-intensive sector can be expected to minimize the volatility of GDP growth.

discussed in our case studies, secular reductions in the share of credit available to the housing sector of the sort that have occurred have very different effects on the economy than do short-term cyclical reductions.

In summary, it is not difficult to understand why a macroeconomic planner might favor the kinds of policies that lead to a reduced level of housing investment. In Section 4 we consider some concrete examples of this kind of strategy. For now consider how this kind of perspective can be implemented in some typical policies.

For example: consider the case of a government pursuing selective credit policies such as dictating who can get loans from formal financial intermediaries and at what rate they can get them. Such a policy can lower the government's accounting costs of borrowing. Alternatively, consider the shortage of infrastructure investments that can occur when central governments impede local governments from borrowing to finance such investments. The first policy can be and often is pursued by governments to ration households out of the credit markets. The second can be the result of the absence of either local government units or local government debt instruments.

A policy that places restrictions on access to credit effectively causes the supply curve of mortgage credit to shift to the left as the government "crowds out" other borrowers by obliging intermediaries to buy its below-market-rate securities. No explicit change in government tax or expenditure policy is associated with the policy. However, because households cannot issue mortgages against their largest and collaterally safest asset, they are confronted with a higher market interest rate for borrowing.^{15/} Because the available credit is allocated to priority sectors there is also a reduced quantity of mortgage credit supplied by the formal sector. Finally, because mortgages are substitutes for other means of borrowing, housing is not the only asset affected by the reduced supply of mortgage credit. All non-government borrowers face a higher real cost of borrowing even if interest rate ceilings obscure this effect.

For most households this policy-induced higher effective mortgage interest rate means a higher effective opportunity cost for discounting their future earnings. As a result, the policy also causes the present value of wealth of most households to be reduced. In most developing countries such a policy uses implicit taxes and subsidies to transfer resources from a group with a relatively high savings rate, i.e., households, to the government, which is often a dissaver. Recent research

^{15/} The relative collateral safety of housing credit can be inferred from the lower premiums for mortgage credit in developed economies or from the relative stability of house prices as shown by Gottlieb (1976). On an intuitive level it can be inferred from housing's fixity and malleability.

by Summers (1981) implies that such transfers can significantly reduce total savings.

Other policies can lower the value of the new housing because, for example, they limit the financing available for the accompanying infrastructure investment. These policies have the effect of shifting the entire mortgage demand function down, thereby reducing housing investment. In the case of restrictions on infrastructure borrowing, they may also bid up the demand and prices of existing properties that already have infrastructure. In addition, when the demand for credit for such a large component of wealth is reduced, the return to savers generally is reduced. Whether or not this lower return reduces overall savings is of course a difficult and uncertain question. Nevertheless, it is clear that such policies reduce the incentives to invest time and future earnings in a very durable asset. This kind of limitation on return almost certainly reduces savings.

Other "typical" policies could easily be imagined which have similar price effects on the housing and asset markets. Clearly a wide variety of government policies exist, many of which are "off the books," that can and do have major influences on the sector and the economy. The discussion above has suggested that, even under relatively stable economic conditions, policies such as directed credit and the rationing of infrastructure investments can have significant effects. In times of high and unstable real borrowing rates, high and volatile inflation, and steeply negative real deposit rates, the effects of such policies are likely to be more drastic for many long-term borrowers such as the housing sector.

A better sense of the nature and magnitude of the costs of such shifts can be achieved by considering specific examples. In the next section we present two case studies that simplify some very complicated policies and behavioral responses. The point of these analyses is to demonstrate that under what we think are reasonable--if not conservative--assumptions, housing and financial policies have had very disruptive consequences for the sector and the economy. While our estimates of policy impacts may lack the precision of traditional budgetary accounting measures, they nevertheless illustrate the analytically important concepts necessary for understanding the way in which government policy affects the housing sector and, in turn, the broader economy.

IV. SOME EXAMPLES OF THE MACROECONOMIC CONSEQUENCES OF URBAN INVESTMENT POLICIES

In this section we present two case studies of the interaction of urban investment policies with the economy. The studies provide the details necessary to show that the policies pursued in these two countries are in some respects polar examples of the types of implicit sectoral policies that we considered earlier.

On one hand, we consider the case of Argentina, a system that, according to traditional budgetary measures, provides little direct subsidization of the housing sector, only 3 percent of government expenditures. According to this measure, the Argentine subsidies for the sector are close to the average level found by Tait and Heller (1982). At the other extreme is the case of the housing sector in Poland, which receives a significant share (13 percent) of government budget outlays. According to accounting measures, it appears that in the case of Argentina there is little at stake in the housing policy. In the case of Poland, on the other hand, it appears that too much is going into the sector. For example, according to the Tait and Heller analysis, Poland provides one of the world's highest levels of government housing expenditures. An obvious policy response to these figures would be the recommendation that in Poland fewer resources should be allocated to the housing sector, and in Argentina housing policy issues are of relatively low priority from an economy-wide perspective. These conclusions, however, are reversed when economic rather than simple budget accounting concepts are used to evaluate the effects of government policy.

In Argentina, government resource transfers to the housing sector actually exceed the new investment in the sector, and the welfare losses from the structure of the housing subsidy are enormous. In the Polish case, large explicit expenditures of government resources on housing are coincident with severe housing shortages and low levels of resource allocation to the sector. The large government transfers to the sector are more than offset by other government regulatory policies. Waiting lists for housing of many years are the norm. In these cases, the scale of measured government expenditures on housing is a very misleading indicator of the true effects of government policy on the sector.

A. Argentina: Mistargeted Subsidies and Implicit Taxes.

The housing finance system in Argentina has interacted with macroeconomic conditions to affect adversely both the economy and the sector. Moreover, the targeting of the housing subsidy system does little to relieve these costs. Indeed, the implicit taxes used to finance these subsidies add to the economic disruptions of the economy. Cumulatively, the system has operated as an automatic fiscal destabilizer that has made deteriorating economic conditions worse.

Background

Macroeconomic Context. In recent years Argentina has experienced a deep and sustained reduction in real income, very high real borrowing rates, rates of inflation of more than 2000 percent, capital flight on an unprecedented scale, and a war that virtually bankrupted the country. Over the 1975-1984 period, real per capita income fell by more than 20 percent to approximately \$2,200 per capita. Its housing market is predominantly owner-occupied (62 percent) and one that in 1976 had just emerged from 40 years of binding rent control legislation. The late 1970s also saw the emergence of indexed mortgage loans. Prior to this time, mortgage credit was provided at low fixed rates, despite annual inflation rates of 20 to 30 percent.

Financial Market Context. In the 1980s the formal financial system contracted sharply, as regulated interest rate ceilings were extended throughout the system in an attempt to reduce the bidding up of real interest rates by severely troubled financial institutions. The results, however, were real borrowing costs in excess of 30 percent, and simultaneously, deeply negative real deposit rates.

Housing Market Context. Against this macroeconomic and financial market context, it is not surprising that the public sector share of housing production has almost doubled to about 50 percent in 1985, as the unsubsidized demand for housing should certainly fall in such an environment. Nor is it surprising that long-term credit should essentially disappear from such a risky environment, and long-lived investments such as housing should be deferred. What is surprising is the level of disruption in the housing market. This market is in complete disarray. Although housing represents one of the few assets in the economy to experience continual and very large increases in the real returns (rental values), net housing production has been very low and, taking account of net depreciation, was probably negative for the last three years. At the same time, the number of rental housing units offered for rent from the existing housing stock in Greater Buenos Aires, a market that accounts for over 40 percent of the national rental market, contracted by more than 25 percent. These units were apparently left vacant rather than take the risk that rent-control would be re-imposed.

Housing Policy

Housing Subsidies. Argentine housing policy influences sectoral outcomes through two principal instruments: an earmarked 5 percent wage tax fund, FONAVI, and a National Mortgage Bank, BHN. Since the late 1970s public housing has been funded mainly by an off budget fund, FONAVI. In 1985 the FONAVI tax was estimated to yield the equivalent of about 700 million australs, or about 1 percent of GDP. This tax has provided funding for over 60 percent of the subsidized housing produced in recent years. FONAVI beneficiaries have had an average annual household income of about US\$3,800 and the housing units produced cost about US\$18,000. The average per capita income of the FONAVI beneficiaries, about US\$750, is well below the median income for the country. Hence, the program is targeted to assist the relatively poor, rather than those middle-income households who can no longer afford housing because of changes in macroeconomics conditions. However, because the per unit subsidy (over US\$16,000 per unit) is so large, few of the more than one million poorest households who qualify for assistance can gain access to the program.

Mortgage payments for FONAVI beneficiaries begin at about 12 percent of income while using a zero real interest rate to amortize the loan. In addition, the loans are indexed to minimum wages rather than the inflation rate or cost of funds, and they are for the full amount of the cost of the house. Households do not make any downpayments. FONAVI's ability to recover resources is hampered by poor recovery of the value of

the money lent. Only a small fraction of FONAVI expenditures, on the order of 2-5 percent, is ever recovered.

The other major source of funds for housing is the National Mortgage Bank (BHN). In the past three years BHN increased its output to finance about 40 percent of public housing production. It is now the third largest financial intermediary in the country with a portfolio of slightly less than US\$2 billion, composed almost completely of indexed mortgage loans. In the early 1970s, BHN had a negative cash-flow that was maintained by Central Bank of Argentina disbursements. Ninety percent of its deposits were made by public agencies and paid significantly negative real returns.

The deterioration in BHN's financial position occurred for two reasons: (1) partial indexation on its loan portfolio significantly reduced the real value of older loan payments; and (2) it increased the volume of its lending despite an inability to repay outstanding loans to the Central Bank. The only other credit available for house purchase is at real interest rates in excess of 30 percent. Consequently, almost all housing sales in Buenos Aires are self-financed in U.S. dollars.

To summarize, housing and credit market data suggest markets in disequilibrium: sharp and sustained increases in real rents not only do not elicit positive net new production, for much of the period they corresponded to a contraction in the supply of existing housing. Significant resource transfers to the sector (over 2 percent of GDP) appear to induce little in the way of incremental private expenditures on housing, even though the negative real returns on almost all alternative domestic savings mechanisms serve to increase the attractiveness of housing investments.

The Broader Effects of Housing Policy

Relative Price Effects. Because of continually increasing real rents and higher relative returns to housing, the present value of the resources given to households through the FONAVI program were almost double the size of the transfers measured by FONAVI of approximately US\$16,000 per unit.^{16/} That is transfers also occur because of the relative price effects that confront non-beneficiaries. For example, while FONAVI provides very large per unit subsidies to about 30,000 households per year, in Greater

^{16/} The present value of the transfers exceeds the cost of the housing subsidy unit provided if we assume that (1) the 16-percent-per year real rent increases cause the expected net rental value of the house to increase from 8 to 10 percent of house value. This increase causes the present value of US\$18,000 to increase to more than US\$25,000; and (2) that the negative returns to financial assets throughout the financial system reduce household discount rates from 4 to 2 percent. This change causes the present value of the US\$18,000 unit to increase to over US\$30,000. As Buckley (1988) shows, an accounting measure of the FONAVI subsidy is on the order of 85 percent of expenditures, i.e., about US\$16,000 per unit.

Buenos Aires alone another one million households have experienced continued sharp increases in real rents. These rent increases occur because other simultaneous government policies--30 percent real borrowing costs, the threat of re-imposition of rent control, and the distribution of such large subsidies to such a limited number of families--create an environment in which there is little if any production other than that undertaken by the public sector. The cumulative rent increases experienced by the million lower income families not served by FONAVI is almost certainly larger than the subsidies received by the limited number of beneficiaries.

The Welfare Costs of Subsidy Targeting. By distributing such large per unit subsidies to either those lower-income households who were unable to afford housing before the economic crisis or those who already own homes and have had their outstanding mortgage debts forgiven, the Argentine system ignores the large number of marginal households, who have been rationed out of the housing market by macropolicies.^{17/} As a result, it does not help those most directly affected by the financial crises.

For example, suppose that in the long-run housing can be produced under constant return to scale, as depicted by curve ss in Figure 3. The

Figure 3

^{17/} See von Furstenberg (1976) for a discussion of a methodology for estimating the share of a housing finance subsidy that goes to inframarginal buyers. His approach, as well as Murray's (1985) empirical work, indicates that in a US program that attempts to target more resources on those who are marginal buyers than does the FONAVI program, less than 20 percent of the expenditures go to those who are at the margin. Hence, given the FONAVI focus on the very poor, it is unlikely that many of the beneficiaries are marginal demanders of new housing.

increases in the relative demand for housing due to demographic pressure and relative returns is reflected in curve dd. However, the observed stock of housing, q, represents the intersection of a policy-constrained demand curve, d'd', for the stock of housing with the existing stock.

The curve d'd' is below the schedule dd because of credit rationing and higher real borrowing rate policies that constrain demand from what would be achieved in a market not in disequilibrium. If the FONAVI subsidy is distributed to those whose decision to buy a house is not affected by the changes in the economy, that is, to those that either already own homes and have had their debt forgiven, or those who are so poor that the increase in the rationed access to housing did not affect them, then it shifts d'd' to d''d'' and has no effect on production.

At the level of the constrained stock of housing, q, the short-run implied resource value of a housing unit, P_k exceeds P_o , the long-run equilibrium price. Because the market does not respond to this incentive to build more housing, the market is in disequilibrium. This disequilibrium results in an efficiency loss of size ABC, an area with a present value equal to 6.5 percent of GDP.^{18/} Because the subsidy is not targeted on those affected by the disequilibrium, the subsidy's expenditure does not reduce the efficiency losses. If, instead of the current approach, the subsidies were directed to those rationed out of the market, the d'd' schedule could be shifted towards the dd curve. Such a shift would reduce the efficiency losses from the housing market's disequilibrium. On a flow

^{18/} A linear approximation of the size of ABC is equal to $1/2(P_k - P_o) \times (q - s_1)$. This figure can be approximated by an estimate of the difference in the present value of a housing investment relative to the costs of production, i.e., $P_k - P_o = 30$ percent of P_o ; an estimate of the elasticity of housing demand with respect to price, and an estimate of the value of q, the value of the Argentine housing stock. If this stock is equal to 100 billion australs, as implied by the calculations in Plan Nacional, and the present absolute value of the price elasticity is on the order of .75, the present value of dead-weight loss is 4.5 billion australs or about 6.5 percent of GDP. The estimate of the value of residential housing stock for Argentina is consistent with data on other countries presented by Goldsmith (1985) and Kelley and Williamson (1984). For example, if Argentina has a national assets/GDP ratio equal to the average of the 20 countries for which Goldsmith provides estimates, then dwellings must account for about 17 percent of national assets. This figure is consistent with the ratio of housing to national assets given in Appendix B of Goldsmith. For the eight countries with this level of detail, housing accounts for 11 to 25 percent of national wealth. The mean figure is 19 percent. The value estimate is also comparable to the calculation of the share of the housing stock in Kelley and Williamson's (1984) estimates of the "representative developing country." See Appendix B of that Study.

basis, a change in subsidy distribution could reduce the welfare losses to the economy by an amount equal to 25 percent of FONAVI's annual expenditures.^{19/}

A major issue is how to discriminate between the buyers who have been rationed out of the housing market and those who have not. One way would be to reduce the per unit subsidy size from the current FONAVI subsidy levels to a much smaller lump-sum subsidy. These smaller grants could be given to those below a certain income level who were willing to mobilize a significant share of their own resources. Such an approach would allow household savings rather than the government's per unit transfers to increase as the macropolicy-induced disequilibrium increased the resource value of housing. This is exactly the approach that has been implemented in both Chile and Turkey. In both countries much smaller per unit subsidies (of less than 30 percent of the FONAVI per unit subsidy) leverage household savings rather than replace them. The result is that government expenditures induce more production per dollar of expenditure. A larger increase in production should in turn lower rents for those not directly assisted by the subsidy.

The objective of housing policy reform in Argentina should be to reduce the welfare costs to the economy of financial policies that have caused the entire housing market not to work for an extended period of time. This breakdown in the functioning of a market that is so widely used imposes large costs on the economy. To address these concerns, efficient and explicit fiscal instruments, such as income or consumption taxes, rather than payroll taxes should be used to mobilize resources for any subsidies given to this sector. On the subsidy targeting side, subsidies should be distributed to maximize the beneficial effects on the large number of households who are not direct subsidy recipients. By giving smaller subsidies to those who are willing to mobilize some of their own resources, more housing would be produced, and the indirect effects of the subsidy would be larger. In this case the poor can best be served by trying to restore the basic functioning of a market that could, if it worked, serve the needs of a much greater number of people.

B. Poland: Analyzing the Relative Prices Throughout
the Economy of the Controls on Housing Output

In the Argentina case study we presented an example of how countries establish macroeconomic policies that have significant implications for the performance of both the housing sector and the broader

^{19/} The flow estimate of the welfare loss is derived by applying the assumed discount rate to the present value of the loss. Because the losses will continue to be realized annually unless there is a policy change, the present value estimate of the loss seems the most relevant figure for evaluating the welfare costs of policy. See Boskin (1978) for a similar presentation of the present value of welfare losses.

economy. Perhaps even more importantly, housing sector policies can have potentially major impacts on macroeconomic performance. Because of the magnitude and extent of government involvement in different aspects of housing policy (production, finance, and regulation), centrally planned economies illustrate, sometimes dramatically, the macroeconomic consequences of inappropriate housing policies.

In Poland, for example, despite relatively large direct government expenditures on housing, the indirect restrictions on the sector more than offset these subsidies, negatively affecting the housing sector in ways that influence not only its performance but macroeconomic performance as well. Essential features of macroeconomic and sectoral policy that are most critical to the performance of the sector are as follows:

Background

Macroeconomic Planning Context. As a centrally planned economy, credit and materials have long been allocated by the central government among economic sectors and regions of the country. In the taxonomy of Section III, Poland's system is one that relies almost completely on quantity restrictions rather than price adjustments to achieve its objectives. Imports and foreign exchange allocation are heavily influenced by central government, with between 60 and 70 percent of imports centrally allocated. Imports financed by individual importers have risen recently in importance from 20 to 30 percent of total imports. Those importers are for the most part also exporters that are permitted to retain a share of export earnings under "currency retention quotas." Because it generates no export earnings, the housing sector is subject entirely to relatively declining central allocations in order to obtain imported inputs for production.

Financial Market Context. Interest rates have been set by the government rather than by market forces in Poland. In the past 5 years, the overall weighted average deposit rates paid to depositors in the National Bank of Poland have been from 3.4 to 5.5 percent in nominal terms and from -8.3 to -47.6 percent in real terms. Real interest rates charged on bank loans have, also, been negative over the same period. The limited number of housing loans that have been made available have been at an annual rate of 3 percent while inflation has averaged in the mid-teens.

Housing Policy

Housing Subsidies. As mentioned above, housing subsidies, primarily in the form of credits for newly produced cooperative or state housing, constitute a major share of government expenditures. In 1985, budgetary expenditures for housing were a close second to food subsidies among government expenditures, comprising 34 percent of all household subsidies, 13 percent of current government expenditures, and nearly 3 percent of GNP. These figures understate considerably the full magnitude of housing subsidies in that they fail to include off-budget subsidies in the form of below-market interest rates for housing loans made to purchasers of cooperative housing. Such off-budget interest subsidies are roughly equal

to an additional 5 to 7 percent of government expenditures and hence equal to another 1 to 2 percent of GNP.

Price Controls. Housing price controls exist for state housing, where rents are controlled by the government and generally comprise no more than 2 to 3 percent of household income. Such rents are less than one-third of operating costs, with the remainder subsidized by the state. Cooperative housing which is heavily state-subsidized includes both owners and renters; for the latter, "rents" are tied to initial capital costs and to current operating costs rather than reflecting market prices.

Hence, as is the case in Argentina, the housing stock receives large implicit as well as explicit subsidies, and is an attractive means of holding wealth. As a result, the value of housing is quite high from an investment perspective. But, once again, this opportunity for profitable investment is foregone. The difference between the two situations is that in Argentina, financial policies prevent the housing sector from responding. In the Polish case, it is housing policies which prevent the response. In particular, there are restrictions on private ownership of multiple dwellings. Households are not permitted to own more than one dwelling. Thus, if a household is purchasing or building a new dwelling, it must relinquish occupancy of its old dwelling upon occupying the new one. In consequence, no speculative building for resale is permitted, and no investor can invest against the high expected return to the asset.

Cumulatively, these policies define an environment in which both macroeconomic and housing policy have hindered the development of the housing sector, which has in turn hindered macroeconomic performance. As is the case in Argentina, breaking this vicious cycle requires a careful evaluation of the mechanisms by which the housing sector and the rest of the economy are linked. Only when such a perspective is taken can prescriptions be advanced for reform. The following is a brief discussion of some of the macro-housing linkages, their consequences, and, by implication, the stakes of policy reform.

The Shortage of Housing Services. The overwhelming consequence for the housing sector of the policies described above has been to perpetuate an acute housing shortage well beyond the time when war-caused shortages were eliminated in most of either Western or Eastern Europe. As a result of wartime housing destruction, Poland emerged with one of the most severe housing deficits in Europe--households exceeded housing units by 1.5 million at a time when the stock was 5.5 million units. By 1960, Poland still had one of the highest relative shortages of housing in Europe with 25 percent more households than housing units. In relative terms, only the U.S.S.R (with a 20 percent deficit), the Federal Republic of Germany (with a 28 percent deficit) and the German Democratic Republic (with a 25 percent deficit) were close to the levels of relative shortage exhibited by Poland in 1960. But by 1980, housing deficits in the U.S.S.R., the F.R.G., and the G.D.R. had fallen dramatically to 5.1, and 2 percent respectively--a result of major residential building programs. In Poland, by contrast, the housing deficit was as high in percentage terms in 1980 as it had been in 1970, with

about 18 percent more households than dwellings. By 1985, there were about 2.4 million households signed up on waiting lists for state or cooperative housing (compared to a stock of 10.7 million dwelling units). Average waiting times for cooperative housing are reported to be from 14 to 15 years in large cities such as Warsaw, and no shorter than 5 to 6 years in some smaller cities.

These housing deficits have created a situation in which increased investment in the housing sector would be highly desirable in economic terms. Comparisons of market prices of housing sold privately (nearly 50 percent of the stock is privately owned) with construction costs indicates that housing prices are often from 50 to 150 percent higher than current construction costs. As is the case in Argentina, such ratios are indicative of very high potential economic rates of return to housing investment from 15 to more than 30 percent in Poland, extraordinarily high by international standards and certainly higher than returns available in many sectors more favored by the architects of Poland's investment strategy.

Were investment to be shifted to the housing sector from other sectors, the minimum direct economic benefit of building enough housing to eliminate the existing housing deficit has been calculated to be equal to 40 to 65 percent of 1986 GNP.^{20/} Although, of course, such a shortage could only be eliminated over a number of years. Because the economic returns to housing investment substantially exceed those in other parts of the economy, GNP growth rates would be expected to improve during the period over which investment expanded to eliminate existing shortages.

The Broader Effects of Housing Policy

While there would almost certainly be some increase in net employment as a direct result of increased growth associated with such resource shifts, it is likely that the more important labor market impacts in Poland would result from increasing labor mobility, which is extremely low at present and has been cited as a "severe constraint" on expanding the output of firms.^{21/} Econometric research into the impact of housing shortages on labor mobility by Mayo and Stein (1987) has indicated the following: (1) place-to-place migration in Poland is significantly depressed in response to housing shortages, and as a result (2) place-to-place wage differentials respond significantly to place-to-place housing shortage differentials as employers provide compensation to overcome the costs to employees of housing shortages--high housing costs, search and commuting costs, or the implicit cost of having to share housing.

20/ World Bank (1987), Country Economic Memorandum for Poland, p. 31.

These econometric estimates suggest that housing shortages may increase wages of urban workers by from roughly 5 to 20 percent depending on the industry, with the largest impacts on industrial and construction industry wages. Such wage differentials (above those likely to exist were housing no impediment to labor mobility) increase local production costs, artificially reduce the relative price of imports, reduce the international competitiveness of Polish products, and distort the demand for labor. It is also equivalent to placing a tax on labor mobility. While the magnitude of such effects is somewhat speculative, they are likely to be far greater than the direct employment effects of housing investment. This is true in part because increases in employment for construction will be at the expense of employment in other sectors. However, even if this labor is equally productive in either sector, the price efficiency effects associated with the implicit tax wedge which impedes labor mobility nevertheless occur. Like the earlier Argentine example, this tax on labor mobility also generates welfare losses. And although the scale of these losses is more difficult to quantify, it is worth noting that this kind of policy is not only a tax on labor, it is a tax on the responsiveness to incentives.

Savings Patterns Effects. Another potentially major impact of Polish housing policies is on savings. In Poland, as in most other countries, household savings provide a major source of net funds for investment. Household savings rates in Poland have shown sensitivity to real rates of return, and have fluctuated considerably with the past decade in response to changes in interest rate policies. Unlike the case of most free-market economies, where households are more free to hold as much as they wish of their portfolio of assets in the form they want, Polish households are severely limited in their portfolio choices. For most their options are: they can consume their current income; or they can defer consumption and, because of negative rates of return on savings, consume even less in the future. For these households, opening up the opportunity of high real rates of return to housing would be expected not only to cause them to reallocate their portfolios toward housing, but also to increase rates of saving. In Poland, the difference between real rates of return of perhaps 20 percent in housing, and deposit interest rates that have rarely been positive within the past decade implies that a significant savings response could accompany increased opportunities for housing investment. Based on estimated elasticities of savings with respect to real interest rates in market economies, it is reasonable to expect that over the longer-term a good portion if not most of the current excess demand for housing could be supplied by households themselves as a result of increased savings and hence increased holdings of financial assets.

The macroeconomic implications of such self-financing of expanded housing production are extremely important. The most important implication is obviously that economy-wide allocative efficiency will increase, as resources flow into the high-return shelter sector. The expectation is that much of the increase in housing investment will be at the expense not of investment in other economic sectors, but at the expense of consumption expenditures and current efficiency losses. Second, because increased housing investment is expected to be largely self-financing, government

subsidies for housing could be decreased dramatically. Recall that on-budget subsidies are currently equal to nearly 3 percent of GNP; off-budget subsidies, perhaps another 2 percent. Each type of subsidy is of the same order as several recent central government budget deficits.

One final impact of macroeconomic policy on the housing sector in Poland relates to the way in which imports and foreign exchange are allocated among sectors. At present, the housing sector and the related urban infrastructure sector have been placed at an increasing disadvantage as a result of government policies to direct imports to so-called "productive sectors," particularly those producing tradable goods, either through direct allocation or by permitting export-oriented firms to retain some of their foreign exchange earnings. A result of these policies has been a dramatic decrease in building sector productivity which is attributable in part to shortages in the supply of imported building materials, tools and construction machinery, and infrastructure. For example, Polish Housing Ministry statistics indicate that an index of labor productivity in the construction industry that stood at 100 in 1970, and had risen to 170 in 1978, had fallen to 125 in 1982. Decreases in productivity are reflected in construction delays and a significant stretchout of construction periods. While the average construction period for socialized housing sector projects was 17 months in the 1970s, more recently, it has been 27 months. Private housing, for which material shortages are most acute, now takes an average of 6 years to complete, compared to 3 years in the 1970s, and compared to an average of just less than 1 year in Western Europe. Such productivity declines clearly have major implications for both the housing sector and macroeconomic performance.

While it is ultimately very difficult to question the rationale for government policies that have attempted to bolster Poland's export performance by channeling imports and foreign exchange to the tradable goods sector, it is appropriate to ask whether the real policy issue in import and foreign exchange allocation is not more complicated than one of promoting tradables versus non-tradables. There are in fact several questions concerning tradeoffs that must be considered. Among these are the question of whether low-return tradables are more deserving of imported inputs than much higher return non-tradables. If a small net volume of foreign exchange is generated at the expense of a large domestic opportunity cost, is it worth the price? Second is the question of whether the long-run effects of the functioning and control of non-tradable sectors (e.g., housing and infrastructure) on the productivity and competitiveness of the tradable sectors do not warrant a more liberal import policy for the non-tradable sector. For example, are the beneficial long-term effects of increasing labor mobility that result from reduced housing deficits (increased factor productivity, reduced real wages, increased competitiveness) worth some current sacrifice in foreign exchange earnings? Finally, there is a question of whether coupling import liberalization for the housing sector with expanded resource allocation to the sector would not result in a situation whereby increased housing sector imports were offset by declines in imports of consumer goods caused by mopping up excess consumer liquidity. While none of these issues is easy to address given available

data, they warrant consideration before uncritical support is given to government import and foreign exchange allocation policies.

In summary, it is apparent that the implications of policies affecting the housing sector in Poland have far reaching consequences that clearly transcend the performance of the housing sector itself. These include impacts on the efficiency of investment within the economy and hence on potential rates of economic growth, employment, real wages and their geographical dispersion, productivity, the competitiveness of Polish products, savings, government subsidies and budget deficits, and inflationary pressures. While quantifying all such effects is clearly beyond the scope of existing data, enough of the more important impacts can be specified within a reasonable range. Such evidence suggests that the stakes of fundamental reform of policies affecting the housing sector in Poland are very large indeed.

V. SUMMARY AND CONCLUSIONS

Shifts in the world economy have created a situation of declining investment in housing and urban infrastructure in many developing countries. In many cases these drops have been dramatic, with direct effects on macroeconomic performance. All too often the decline in economic activity within these sectors has been seen as an unfortunate, but necessary, consequence of the need to adjust to the difficult external economic conditions that have characterized the past decade and half. No doubt in many cases a cyclical reduction in housing investment can be very helpful in achieving macro stability. However, in many cases policies have been pursued that have led to deliberate suppression of these highly visible non-tradable goods sectors.

These kinds of policies have led to either establishing or perpetuating a combination of macroeconomic and sectoral policies that consign the role of housing and related infrastructure to that of at best a residual category of economic activity. Unfortunately, the economic costs of such a consignment can be quite high, and even more importantly, these costs are largely ignored by traditional fiscal analysis of the sector.

In examining governments' policies in the sector it is conventional to gauge the impact of government on the sector, and in turn the sector on the economy, in terms of either government expenditures on the sector or overall resource flows. Discussions of public finance within the housing sector are therefore typically confined to examining the efficiency and equity implications of a small and often declining portion of total government expenditures, and a relatively small share of GDP.

To take this approach, however, fails to recognize the nature of the linkage between the sector and the broader economy. It is less government spending programs in the sector than government's role in

defining regulatory frameworks, pricing policies, and policies affecting the financial sector that comprise the major instruments for influencing the performance of the housing sector and the way in which its performance influences the macroeconomy. In an important sense, what governments do "off the books" is far more important than what they do on the books with regard to housing policy.

This is so in large part because of the enormous leverage that governments are able to exert on marginal incentives within the housing sector. The extremely long life of housing means that the present value of current policies will be felt in both the housing sector and credit markets. To a considerable degree it is because of housing's durability that policy regarding housing can have such major impacts beyond the housing sector. When policies affect the price of this asset and the access to credit necessary to finance it, economy-wide incentives can shift dramatically, affecting consumption, savings, investment, and other major economic aggregates.

The paper has presented a simplified framework for analyzing some of the policy perspectives that affect the housing sector, and for beginning to understand how both the sectoral and macroeconomic implications of such policies are manifested. The framework examines the effects of two archetypes of financial regulation policies regarding the housing sector--one which relies principally on market mechanisms to allocate credit and the other which relies principally on portfolio restrictions. While the model is posed in terms of financial regulation, the paradigm represents a metaphor for a host of other sorts of housing-oriented policies that divide along laissez-faire versus dirigiste lines. For "portfolio restrictions," for example, one may read directed credit, interest rate controls, housing price controls, import restrictions (regarding, for example, building materials), and restrictions on property rights--all policies that have found their way into the housing and macro policy arsenals of developing countries, and all the more so in recent years.

The simple applications of this perspective suggest that the choice of policy instruments for the housing sector can have major implications not only for the performance of the sector, but also for the performance of the macroeconomy. These influences are based on instruments having little or nothing to do with conventional housing programs that are carried on the government's books. The result is that little attention is paid to the costs of these policies. This is unfortunate because not only can the costs be very high, but, in fact, the policies that restrict housing investment are often the same ones that impede the financial deepening process.

The two case studies emphasize many of the general themes developed in the paper--the downward trend and stagnation of investment in housing and related infrastructure; the choice in each country of credit, price, and other controls as the principal policy instruments for influencing the housing sector; the general lack of association between direct government spending in the housing sector and improved housing

conditions; and the presence of major economy-wide disequilibria and disruptions resulting from inappropriate housing and financial policies. Perhaps the common themes of the two cases studies are first, that the costs of the disequilibrium in the housing sector are high, second they are what one would expect given the disequilibria that have emerged in the financial sectors of many economies, and finally, that the persistence of the disequilibrium in this sector is due at least as much to the maintenance of an inappropriate policy perspective as it is to the initial causes of the disequilibrium.

In the case of both Argentina and Poland, and undoubtedly for dozens of other countries with similar policies toward the housing sector, the stakes of fundamental housing policy reform are seen to be far higher than would be suggested by more traditional frameworks for analyzing the public finance of the sector.

In many countries, neglect of the macroeconomic implications of housing-oriented policies has undoubtedly deepened their economic crises. On the other hand, housing policy reform can often play a fundamental role in ameliorating the current economic problems of developing countries. To do so, however, first requires that we change the way we evaluate the stakes of policy reform. It is hoped that this paper represents a modest beginning at changing the way we approach the telescope through which we examine housing policy. In order to look through the right end of the telescope it is critical to look at how policy influences marginal incentives and risks throughout the economy. To confine policy analysis to a narrow examination of the benefits and costs of explicit government expenditure programs for housing is to be deceived by "fiscal illusion," and runs the risk of missing the most important impacts of government policy on both the housing sector and the broader economy.

We examine two measures of the level of economic activity of the housing sector--(1) the ratio of housing investment to GDP and, (2) the ratio of housing investment to gross fixed capital formation GFCF). The former of these two relationships has been analyzed by Burns and Grebler, Renaud, and others for periods up to and including the early 1970's. This research revealed a consistent and quite stable relationship between the ratio of housing investment and GDP with GDP per capita; the share of housing investment in GDP first increasing with levels of GDP per capita (up to a level of about US\$8,000 in 1981) and then declining as per capita GDP continued to increase.

To gauge the impact of the economic conditions of the period since the late 1970's on these relationship data were collected for about 50 developed as well as developing countries for two periods, the mid-1970's (centered on 1976 for Most countries in the sample) and to the early 1980's (centered on 1981 for most countries in the sample). Two regression equations were estimated for each period with the dependent variables defined as follows:

RES/GDP = the ratio of housing investment to GDP

$RES/GFCF$ = the ratio of housing investment to GFCF

and with two independent variables, GDP per capita and GDP per capita squared. The functional form of these equations follows directly that of the Burns and Grebler work, although it does not include some other variables they included, such as the rate of population growth and the relative rate of population growth in urban areas and the entire country. These latter variables were not included here because they were not expected to have changed much over a five year period, and because their exclusion will certainly have only a negligible impact on any test of the shift in regression parameters from the mid-1970s to the early 1980s. The data are from Compendium of Human Settlements Statistics, United Nations, New York, 1985.

Hypotheses concerning the two estimated relationships are as follows:

- The relationship between housing investment and GDP should be similar in both time periods with RES/GDP first rising and then falling with GDP per capita; however:
- For given levels of GDP per capita, it is expected that there will be lower levels of RES/GDP in the latter time period.

- The relationship between housing's share of GFCF and GDP per capita is expected to exhibit a similar relationship to GDP as that between housing investment and GDP per capita, first rising and then falling with GDP per capita; however:
- For given levels of GDP per capita it is expected that there will be lower levels of RES/GFCF in the latter time period.

Before presenting the results of the regression equations, it is useful to consider shifts in the two dependent variables between the two time periods. In the mid-1970s the average ratios of housing investment to GDP and housing investment to GFCF were respectively 7.2 percent and 28.3 percent for the sample of countries investigated. By the early 1980s these ratios had fallen to 5.5 percent and 23.4 percent, respectively. Thus, on average, housing investment's share of GDP and its share of capital formation had fallen significantly in just a five-year period. The gross declines in housing investment are borne out by the results of regression models of the two time periods which are as follows:

Mid-1970's

$$\text{RES/GDP} = 2.236 + 0.001239 \text{ GDP} - 7.719 \times 10^{-8} \text{ GDP}^2 \quad R^2_c = 0.56$$

(0.000192) (1.446*10⁻⁸)

$$\text{RES/GFCF} = 13.739 + 0.003501 \text{ GDP} - 2.107 \times 10^{-7} \text{ GDP}^1 \quad R^2_c = 0.38$$

(0.000816) (6.138*10⁻⁸)

Early 1980's

$$\text{RES/GDP} = 2.203 + 0.000885 \text{ GDP} - 5.919 \times 10^{-8} \text{ GDP}^2 \quad R^2_c = 0.28$$

(0.000240) (1.859*10⁻⁸)

$$\text{RES/GFCF} = 11.313 + 0.002961 \text{ GDP} - 1.816 \times 10^{-7} \text{ GDP}^2 \quad R^2_c = 0.24$$

(0.000991) (7.666*10⁻⁸)

Where standard errors are in parenthesis. All coefficients are significant at or above the .05 level.

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