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Housing Policy Reform in Hungary

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Infrastructure Operations Department
Country Department IV
Europe, Middle East and North Africa Region

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CURRENCY AND EQUIVALENT UNITS

(as of November 1990)

rency	-	Hungarian Forint
S$	-	58.9 Ft
Ft	-	1.69 US$

WEIGHTS AND MEASURES

The metric system has been used.

ABBREVIATIONS AND ACRONYMS

	-	Central Statistical Office
	-	Gross Material Product
	-	Government of Hungary
	-	National Savings Bank
)	-	Organization for Economic Corporation and Development
[D	-	United States Agency for International Development

FISCAL YEAR

January 1 - December 31

was prepared in collaboration with the Government of Hungary. Loic Chiquier, Silvia Sagari of the World Bank, Douglas Diamond Raymond Struyk (USAID) contributed to its preparation. Sriyani technical and production support. Christine Kessides of the ted the overall social study of which this was a component.

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EXECUTIVE SUMMARY

Background

Like many sectors in "shortage economies," the Hungarian housing sector is characterized by both a very high level of subsidy, and a high level of shortage. However, the problems in this sector go well beyond the microeconomic distortions and problems usually associated with the working of markets in centrally planned economic systems. Conditions in the housing sector have and will continue to have major effects on macroeconomic performance and the sustainability of the adjustment program. For example:

- on a per capita basis housing production levels, which for many years have been among the highest in Europe, in 1989 reached their lowest level in 35 years and they have fallen even lower in 1990 and the first quarter of 1991;

- the policies for dealing with the technical insolvency of the nation's housing bank--which is also the nation's largest bank--require large government expenditures (3 percent of GDP in 1989);

- housing costs relative to income are among the most expensive in Europe with the result that many families, particularly young households, are unable to afford housing;

- the subsidies given to the sector are very large, accounting for over 50 percent of consumer subsidies, and they are poorly measured--i.e., most are not included in budget documents, and they are regressively and inefficiently distributed;

- the lack of a well-functioning housing market impedes labor mobility geographically, and hence the efficient reallocation of labor away from declining industries and toward expanding activities;

- and finally, after years of neglect, the state is in the process of transferring the ownership rights of the more than 20 percent of the housing stock that is publicly-owned--an asset that is larger in value than the financial system--to local governments who have little financial expertise and no system of accountability. Most of this housing, and particularly the run-down portion of it, is located in Budapest.

The Approach of this Study

This paper presents an analysis of the Hungarian housing sector and an agenda for reform of that sector. The paper was prepared by a joint task force of the Government of Hungary and the World Bank during 1990. The policy agenda covered the range of constraints and policies that affect the housing sector with one exception--the new construction sector. The new construction sector will be

analyzed in a separate study.[1/] The policy changes that have occurred since the last version of this analysis was prepared in November 1990 are incorporated throughout the text as well as in a Table at the end of this summary.[2/]

The Table indicates that substantial progress has taken place in the last 5 months: a major effort to reduce and improve the targeting of subsidies to the sector has been undertaken, the ownership of public housing stock has been decentralized to local governments, and the means of financing of housing has been better integrated into the financial system. However, much still remains to be done, and the government is now in the process of preparing a Housing Act which will set the terms of many aspects of housing policy for years to come. Hence, a major objective of this paper is to continue the dialogue with the government on these important policy issues.

The plan of this paper is as follows. Chapter I provides data on housing sector trends over time. It details the low rent levels, the sharp improvements in both the quantity and quality of the Hungarian housing stock, particularly relative to the slow population growth. Chapter II provides a statement of the longer term and short run objectives of reform of the sector. It then discusses the three main constraints on the fulfillment of these objectives, and provides a summary of the principles of reform that apply to each of these constraints. It also identifies a list of steps that could be taken to fulfill these principles. Chapter III discusses the sequencing and breadth of the reforms. Particular attention is paid to the important complementary relationships between reform measures. Finally, Chapter IV suggest a plan of action for reform of the housing sector. The annexes develop in greater detail the arguments made in the paper.

Objectives of the Reforms

The long-term objective of reform is the development of a more market-oriented housing system that is both consistent with the broader economic reforms concurrently in progress and protective of those least able to absorb the costs of the adjustment process. In other words, the reforms attempt to maintain a social safety net while stimulating movement to a market-based housing system.

The immediate objective is the development of those policies, institutions, and laws that will facilitate the enactment of a better-functioning housing and housing finance system. The absence of such a system causes the perpetuation of--and indeed the expansion of--the existing distortions that impair not only the functioning of the sector but also the economy. For example, the lack of a

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1/ The Joint Task Force was made up of representatives of the Government of Hungary and World Bank. It was organized by the Government of Hungary and assisted by consultants. It included discussions and visits with a wide range of participants in the housing sector. In addition, USAID has provided support for expert assistance and statistical analysis of how housing subsidies could be better targeted.

2/ Housing Policy Reform in Hungary, draft dated November, 1990, The World Bank.

resilient, competitive supply of housing finance, not only impedes the efficient and equitable transferal of ownership of government-owned housing, it also impedes the development of a more effective financial system.

The immediate objectives also recognize: first, that it will take time to move to a market-oriented system, and that during this transition period complementary measures are needed to assure that improvements on one policy front are not offset by reversals on another. For instance, if rent increases are not accompanied by a restriction on the sale of government units at deep discounts from their market value, then the improvement in one policy will simply lead to a deterioration in another policy. Second, that reforms that attempt to move to a more market-oriented system without first developing the prerequisites of such a system are likely to be ineffective if not counterproductive. For example, attempts to increase rents without first establishing a method of protecting those who cannot afford to pay rent increases are likely to prevent increases from being imposed on those who can pay significantly more.

Findings.

Changing Conditions. Relative to its population size and stock of housing and population growth, Hungary was one of the leading producers of housing in the world over the 1970-83 period. Conditions improved significantly. However, in recent years production has fallen off precipitously. In addition, despite the improvements there is a widespread sense of housing shortage. This perception occurs because many households live in housing units that are run-down and offer few basic amenities. The problem these households face is not the cost of housing; that is low. It is that they have few available options. Improving their circumstances requires substantial savings--either for "grey market" transactions or self-construction. As a result, they are unable to "bid" for more housing services.

Subsidies in the housing sector are large, mismeasured, and misunderstood. For example, one of the largest subsidies to the sector--the difference between the rent that households actually pay and the rent that would be charged by a market-oriented supplier of housing--is measured only partially and indirectly in government budgets. Because housing subsidies account for such a large share of subsidies, reducing them and improving their targeting can be expected to make a significant contribution to a lowering of taxes that are a fundamental part of improving real wages.

Property Rights. For Hungary to successfully emerge from its economic challenges, all of its scarce national resources must be managed prudently. The most straightforward way to insure the appropriate incentives for such prudent management is to have clear and unambiguous property rights. Almost 75 percent of the housing stock is owner-occupied and has relatively clear property rights. However, the rights to the 800,000 state-owned housing units--including most of the housing stock of Budapest--is not so clear. Most tenants can now effectively "sell" their subsidized rental units, inclusive of a partially capitalized prospective subsidy, on a "grey market." In some important respects, then, these rental units have ownership-like characteristics, and as a result, Hungary effectively has almost no rental housing at all. This arrangement of property rights is clearly inefficient, is an impediment to mobility, and exacerbates

social tensions. Furthermore, it represents a significant portion of national wealth. To suggest how large a portion of national wealth is involved consider the following: if the average publicly-owned unit is worth Ft. 1,000,000, the total value of this portion of the housing stock is almost Ft. 800 billion, about 40 percent of GDP.

The legal and political issues involved with a change from a "social housing" system that has been in place for many years to one based on more market-like relationships are many, complex and easily misunderstood. For example, the ability to inherit a heavily-subsidized, state-owned rental housing unit has been a common practice in Hungary. This kind of approach to providing subsidized housing is extremely inefficient and often highly regressive. Nevertheless, to attempt to stop without discussion this practice in an environment of sharply declining production and reduced availability of rental housing is likely to be an unpopular measure. Changing housing policy so that more of the benefits of a market can be provided and the subsidies can be more carefully targeted will almost certainly require a major effort on the part of the government to explain the changes in tenants' rights that are needed.

Finance. The GOH has taken on budgetary responsibility for the losses on the large stock of outstanding mortgage loans made by the National Savings Bank (NSB). These loans had an average interest rate of about 3 percent. In the beginning of 1991 legislation was passed that increased the interest rates on these loans along with providing partial debt forgiveness.[3/] This loss recognition by the GOH and the movement to market rate lending is a significant improvement over the policy of making below-market fixed interest rate loans.

However, the restructuring of the NSB is not without problems. The adjustable rate mortgages now supplied by NSB are indexed to nominal interest rates and carry an interest rate of more than 30 percent. Without subsidies -- which will be stopped in July of 1991--or with the use of loans indexed to prices, mortgages will be affordable for very few families. Hence, even though the changes in principle allow NSB to be able to charge borrowers more, in fact, NSB will still not be able to compete for funds. The interest rate it charges is so high a nominal rate, that few can afford the cash-flow costs of such borrowing terms. For NSB, the largest bank in the country, to be able to compete for deposits inflation must fall sharply and quickly so that lower nominal interest rates can be charged. Alternatively, NSB, as well as other banks, could change its approach to lending for real estate. The use of mortgage instruments in which price rather than interest rate indices were used to revalue loans would substantially lower over time the cash-flow costs that make mortgage lending so unaffordable and which create demands for interest rate subsidies.

Institutions. Cutting across the need for fundamental changes in subsidies, property rights, and finance is the need for the development of new institutions and institutional arrangements. For example, there is little or no construction lending underwriting for housing construction; nor is there any service-oriented housing management or maintenance companies. Tenants options have been extremely limited, private housing construction has been done either

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3/ The details of the interest rate adjustment legislation are in the text.

as a "do it yourself" exercise or done through public enterprises. In general, regulations and supply-driven administrative rules rather than prices have governed the allocation of resources in the housing sector. The kind of institution building associated with building market mechanisms for such long-term investments and for a good that provides basic shelter services will take time, will be affected strongly by the broader economic environment, and will require a significant technical assistance program.

Main Recommendations

(1) Subsidies. The price mechanism should be used to direct the allocation of units. Rents for most state-owned units should be increased in steps until they are at market levels. The total volume of subsidies--inclusive of the real rent transfers implied by paying such a low portion of income for rents--must be reduced substantially. The quantification and analysis of how alternate subsidy approaches would affect the level of subsidies and household budgets should be a high priority in housing sector policy discussions.[4/]

(2) Families with lower incomes and/or pensioners--perhaps the lowest quarter or third of the income distribution--should be protected from having to spend an unreasonable share of their incomes on housing and associated utilities' services. A housing allowance, or some other means of protecting the poor from sharp rent increases, should be implemented.

(3) The higher rents should be sufficient to pay for full capital, and maintenance costs and improved services generally. Therefore, state budget allocations for this purpose should be discontinued as soon as possible.

(4) For homeownership, the preferred subsidy form is generally an up-front grant because its impact on the state budget is immediately clear and because of the problems that can be encountered with deferred interest rate subsidies.

(5) Property Rights. Immediately prohibit "sales" of public units by their occupants. Also, prohibit very deep discount sales of properties by local governments and the provision of below market rate financing for the purchase of these units.

(6) The transfer of ownership of publicly-owned units to local governments should come with a variety of restrictions on their ownership rights: (a) Require local councils to apply the restriction noted in proviso #5 in order to protect the interests of the country; (b) If the central government adopts a housing assistance program, such as a housing allowance scheme, the assistance

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4/ Under USAID sponsorship such a study was undertaken by Jozsef Hegedus, Raymond Struyk, and Ivan Tosics. Integrating State Rental Housing With the Private Market: Designing Housing Allowances for Hungary. Urban Institute Press, Washington D.C. 1991. Data assistance was provided by CSO.

should be available for local government housing units only if rents for all housing units under their control are at market levels, or if the local government has agreed to move rents to this level; (c) Inheritance of public units should be prohibited; and (d) An explicit allocation policy for the units should be adopted.

(7) Create a supervisory body to audit the local government's management and disposition of housing-related assets. The functional responsibility of this body should be limited and similar in spirit in many respects to that of the National Property Disposition Agency, i.e., it should be such that it encourages the prudent and best uses of the assets rather than become a monitor of all the responsibilities and functions of the local governments which own the housing. However, supervision and auditing functions are also involved with the on-going management of the publicly-owned housing stock. The supervision of this activity is in principle more akin to that of managing an ongoing financial concern, e.g., a banking supervision type responsibility.

(8) Prohibit local governments from regulating the private rental market beyond health and safety considerations to prevent the imposition of restrictive rent controls or excessive tenant protections.

(9) Finance. The NSB should be restructured. For mortgages to be affordable NSB's current loan terms require for any but the highest income households either interest rate subsidies or large risks to be borne by the institution (and hence the government) by assuming that borrowers will be able to repay loans indexed to nominal interest rates.

Supplying mortgage instruments with outstanding values which were indexed to prices rather than nominal interest rates would lower the initial cash-flow costs of mortgage borrowing by a great deal. If these instruments were financed with similarly indexed deposits or bonds, they would offer a new financial savings instrument that should be relatively attractive to savers. However, in addition to price indexation of outstanding loan value, in Hungary's uncertain wage environment, considerable attention should be paid to the ability of households to repay out of current income so that the likelihood of full loan repayment is maximized.

In particular, the desirability of relying on a dual index mortgage instrument, as has been used with considerable success in Mexico and France, should be given careful consideration. This instrument requires that borrowers' repayments be indexed to the performance of a wage index while the outstanding loan balance is indexed to prices. Any discrepancies in loan amortization--due for example, to a decline in real wages--are recaptured by varying loan maturity and by the increases in real payments that occur during periods of real wage increases.

It is important to stress that the pursuit of any such financial innovations should be carefully evaluated in terms of overall financial sector policies. Mortgage indexation cannot be a substitute for lower inflation. But, correctly-designed, it can be a substitute for the interest rate subsidies and contingent liabilities that the government is currently undertaking and which contribute to the current levels of inflation. Ultimately, as long as the indexed

mortgage instruments offered are part of a coherent, credible financial policy, these instruments can be expected to contribute to both better financial policy and a much easier transition of both the housing and financial sectors to more market-oriented systems.

(10) NSB's functions as a financial intermediary and housing assistance provider need to be separated and clarified. In the past year NSB provided the construction financing for about one third of private house building, much of this through a traditional relationship with local councils and state enterprises. Whether the provision of this service is consistent with NSB's more important financial resource mobilization functions is problematic.

The Sequence and Complementarity of Reforms. The first stage in the sequence of reforms of the housing sector should be the provision of indexed mortgage instruments. While this reform could substantially improve the financial system's ability to mobilize resources at lower cost and risk to the government than that implied by the current system, it is also an important first step in enabling the pursuit of the kinds of basic reforms of the housing sector--such as a change in rent policy. Indeed, for increased access to credit to significantly improve the housing sector's functioning, this step should be implemented in concert with other housing sector reforms. However, it is important that these new instruments be viewed as a financial innovation rather than a coerced or segmented activity that is undertaken by only one lender.

Complementary Policies. There are a number of important complementary policies that should accompany the provision of more affordable, competitive finance. Two are particularly important and are discussed below. However, as of least as much importance as the complementarity of policies is the need to coordinate these policies from a coherent sector-wide perspective.

(11) A coordinating policy group should be established that can integrate the range of concerns with respect to social welfare, finance, and fiscal and regulatory issues associated with an evolving market-oriented system. Ideally this group would have a time-bound plan for the achievement of the set of reforms desired that identifies the amount of time needed and sequence of these reforms. However, given the fundamental importance of new institutions and institutional arrangements to the success of the reform program, and because of the very close relationship between the state of the economy and the ability to implement these reforms, it does not seem propitious to have a rigid schedule of reform. Nevertheless, given the broad dimensions of the policy reform strategy, the establishment of a policy group to monitor progress and respond to changes is an important linchpin in the process.

The most important complementary policy changes to changes in housing finance policy are:

First, the policy of selling the existing stock of state-owned housing at substantial discounts should be ended; such sales have often been rationalized on the basis that, due to the lack of finance, the units are not otherwise affordable. The development of finance will take some time--at least a few years--and the local government councils should be prevented from getting rid of their most valuable stock of housing and/or land at low prices prior to the

establishment of a broader supply of mortgage credit, or in response to tenant pressures as the rental subsidy reform is debated

Second, local governments should be given much greater flexibility in setting rents and prices for the housing stock in their jurisdiction. In the new housing act that is to be passed in 1991, local governments should gain the ability to set the price of the housing stock, which will enable them to vary rents and sales prices in ways that maximize the benefit to the entire community. The housing stock was transferred to local governments at the end of 1990, but until the new housing act is passed, these units are governed by edicts according to which the central government sets rents and gives indicative prices and interest rates for the sales of units. Besides having greater ability to set prices, local governments should also be held accountable for the most effective usage of the assets to which they are being given the property rights. The development of a central supervisory body could play a very important role in this area.

Third, in order to develop an efficient rental sector substantial rent increases on most housing units are essential. However, such rent increases will only be achievable when an alternative to the current subsidy system of very low rents for all state tenants is in place. While there is resistance to the idea of an across-the-board, all encompassing rent increase, there is also little understanding of how various segments of society would be affected by such a change in policy, and how alternative ways of subsidizing those deemed needy could reduce the transfers to the sector. Substantial gains are possible from moving to a more narrowly-targeted subsidy system, such as a housing allowance program.

Finally, a very fundamental transition issue is: How should policy address the high price of inflation hedges such as houses? Young families who do not have access to the second economy often cannot afford to buy a new house without subsidies, and these subsidies account for a significant share of budgeted subsidies to the sector. Some perspectives on this question and how it affects the initial policy agenda with respect to new and existing housing are offered.

PROGRESS ON RECOMMENDATIONS

RECOMMENDATIONS*	ACTION TAKEN BY GOH	REMAINING ISSUES
I. Subsidies		
1. Reduce total subsidies.	Eliminated biggest interest rate subsidies for first-time home buyers; Eliminated maintenance subsidies; Increased interest rate on old loans.	Rent increases; financing terms for privatization; both governed by Transition Law until Housing Act is passed by Parliament.
2. Housing allowance should be implemented for low-income families.	Crude allowance system introduced; Budapest studying more complete system.	Transition Law applies until Housing Act is passed.
3. State expenditures for maintenance should be discontinued as soon as possible.	done	Transition Law maintains constant rent levels while 1991. Budget reduces the government expenditures.
4. Homeownership subsidies should be up-front grants, not interest rate subsidies.	done in 1991 Budget	Some forms of interest rate subsidy remain until indexed mortgages are introduced.
II. Property Rights		
1. Prohibit sales and financing of state-owned units at below market prices.	None. Governed by Transition Law until Housing Act passed by Parliament. Decisions at local level.	Major changes needed. The Transition Law contains distortions of price and interest rates of old system.
2. Transfer ownership of public housing to local governments with restrictions	Transfer done by Local Government Act without restrictions.	Full Property Rights to Land not yet given; Transition Law constrains uses.
3. Create a supervisory body to audit local government management and disposition of housing-related assets.	Inter-governmental discussions have taken place but no concrete action.	Interior Ministry has broad powers of this sort with respect to local government. Still to be developed fully.
4. Prohibit local governments from imposing rent control.	None. Governed by Transition Law; however no rent control at present for new private rental housing.	Phase out of rent control of existing private under discussion.
III. Finance		
1. NSB should be restructured	Made Joint Stock Company; interest rates deregulated.	With termination of interest rate subsidies lending terms are not affordable (over 30% interest rate). Mortgage innovations could improve this substantially and are being discussed by NHB.
2. NSB's functions as an intermediary and housing assistance provider should be separated and clarified.	Process begun and should be accelerated by new management.	Development of finance that is not subsidized for private rather than public producers of housing.
3. Government expenditures on old mortgage loans should be restructured	Done. Interest rates on old loans increased from 10% of market rate to 50% of market rate.	Constitutional argument on changes is not yet resolved.
IV. Sequence of Reforms		
1. Establish a coordinating policy group.	Done. The preparation of Housing Act is being undertaken by Inter-Ministerial group.	Permanence of Housing Policy Group at central government level is in doubt due to decentralization of authority.

* These recommendations were made in the November 1990 Report to the government.

I. OVERVIEW

A. Background

Like many sectors in "shortage economies," the Hungarian housing sector is characterized by a very high level of subsidy, and the perception of a high and increasing level of shortage.[1/] However, the problems in this sector go well beyond the microeconomic distortions and problems usually associated with the working of markets in centrally planned economic systems. The distortions in the sector have and will continue to exert major effects on macroeconomic performance. For example:

-- housing production levels, which for many years have been among the highest in Europe on a per capita basis, have reached their lowest levels in 35 years;[2/]

-- the policies for dealing with the technical insolvency of the nation's housing bank--which is also the nation's largest bank--require large ongoing government expenditures (3 percent of GDP in 1989);

-- the cost of houses relative to income is among the highest in Europe[3/] with the result that many families, particularly young households, are unable to afford housing;

-- the subsidies given to the sector are very large, accounting for over 50 percent of consumer subsidies, they are poorly measured, and regressively and inefficiently distributed[4/];

-- the lack of a well-developed housing market impedes labor mobility geographically, and hence the efficient reallocation of labor away from declining industries and toward expanding activities;

-- and finally, after years of neglected maintenance, the state is in the process of transferring the ownership rights of the more than

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1/ The notion of shortage economy is developed by Kornai. (1990).

2/ Tosics and Hegedus, (1990) present data on long term production in Hungary and other East European economies. The comparison made in the text is with respect to housing units produced per population as Tosics (1988) has done, a stock-flow concept, or production relative to the growth in population, a flow-flow notion. Since Hungary has had one of the lowest population growth rates in the world, and scores highly on the first measure it must rank even higher by the second measure.

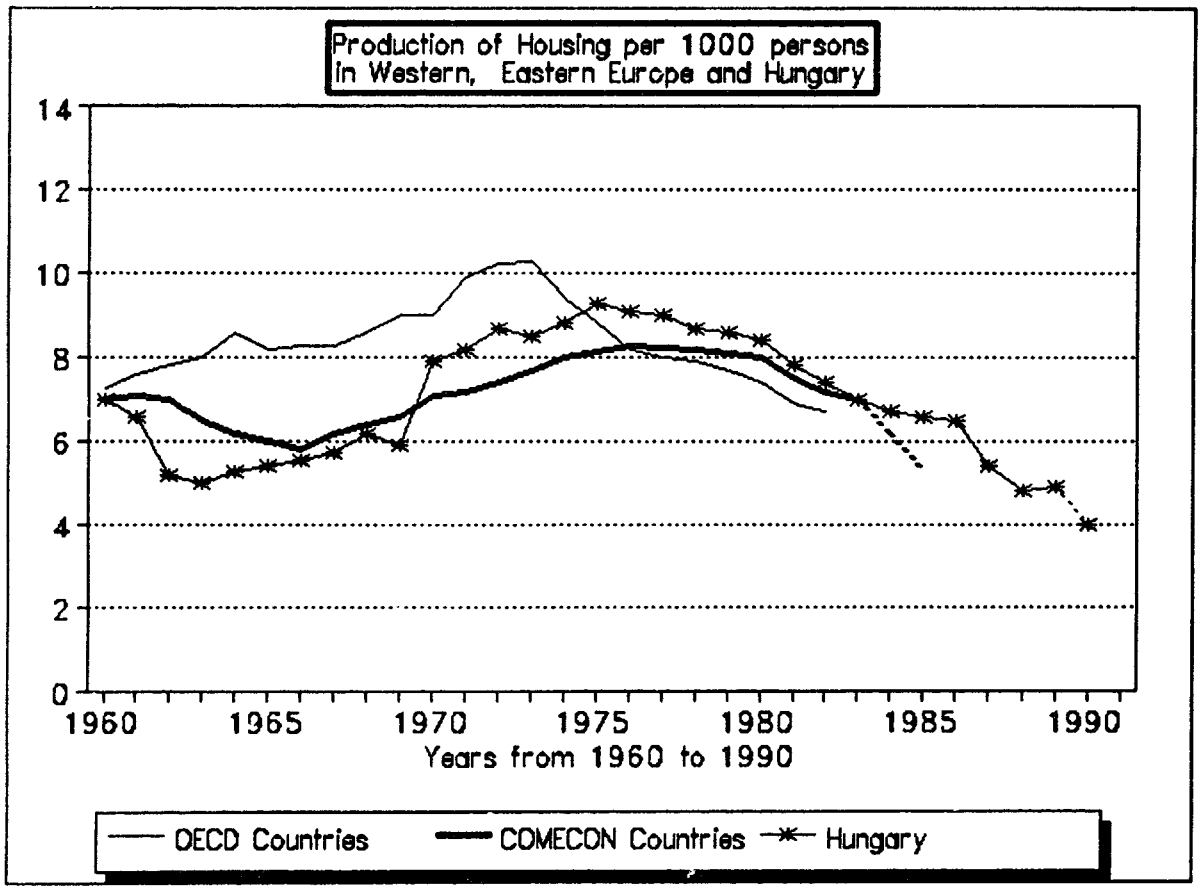
3/ Csomos (1988) as cited in Bhalo (1989).

4/ See Daniel (1985) for the measurement of large, very regressive housing subsidies that are not measured in the government budget.

20 percent of the housing stock that is publicly owned--an asset that is larger in value than the financial system and accounts for most of the housing in Budapest--to local governments who have little financial expertise and no system of accountability.

Figure 1 depicts the number of housing units produced annually per 1000 persons in Hungary and for an average of 15 OECD and 7 COMECON countries between 1960 and 1985. While such a simple summary statistic can imply any number of things and must be cautiously interpreted, at least two aspects of the figure warrant attention.[5/]

FIGURE 1



First, note the gap between the higher level of production in OECD countries and the lower levels in Hungary and other COMECON countries until about 1977 and the subsequent closer coincidence of the two trends after this time. This earlier gap is consistent with the findings of a much lower investment in

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5/ The Figure is from Ivan Tosics, "Privatization in Housing Policy: The Case of the Western Countries and that of Hungary." (1987).

housing in centrally planned economies.[6/] The latter result is consistent with, among other things, the greater interest rate responsiveness of housing investment in more market-oriented OECD economies and the increase in world real interest rates and slowdown in growth during the late 1970s and early 1980s.

Second, the consistency of the Hungarian trend with that of the COMECON trend until about 1971 and the inconsistency of the Hungarian trend with either the OECD or the COMECON trends after that date. In fact, the data indicate that relative to its population size, from 1971 on Hungary produced considerably more new housing than did other COMECON countries --allocating more than three times as much of Net Material Product to housing investment than did the GDR and more than 50 percent more than did Poland during the 1970s--and that between 1975 and 1982 it outproduced the OECD average.[7/]

According to the perspective in Figure 1--that is, a per capita basis--Hungary has been one of the world's leading housing producers for a considerable period of time. In addition, this figure compares stocks and flows, ie., the flow of new housing units with the stock of the population. A more accurate measure would compare the change in the number of housing units with the change in population. When this type of comparison is made, Hungary's extremely low population growth over this period, a less than 1.5 percent increase in the total size of population over 1970 to 1990,[8/] shows how the data in Figure 1 understate the relative level housing production. Hungary's population growth for the period was one of the lowest rates in the world, and it began the period with one of the smallest absolute deficits of housing in Eastern Europe.[9/] Very clearly relative to its population Hungary has been one of the world's leading producers of housing for an extended period of time.

6/ See Goldsmith (1985) for details on the distribution of capital stocks in the USSR and a number of OECD countries for this kind of evidence. See Matras (1989) for details on East European housing investment; and Konrad and Szelenyi (1977) for an analysis of Hungary's planned under-investment in urbanization throughout the 1960s. Finally, Sillince (1990) shows the low quality of the housing produced during the 1960s.

7/ See Table 6 in Matras (1989).

8/ The population data are from Housing Situation in Hungary, Ministry of Interior, Hungary. The data for 1990 are estimates made by Hungarian staff. The Hungarian population growth rate for the 1965-80 period was the second lowest of all developing countries and sixth lowest of all countries in the world. For the 1987-2000 period it is projected to be tied with the Federal Republic of Germany for the lowest in the world. Source: World Development Report, 1989.

9/ Matras (1989) shows the "Statistical" Housing Shortages --the ratio of households to dwelling units -- of 4 socialist economies for the 1960 to 1986 period. She shows that Hungary began the 1970s with a smaller shortage -- a ratio of 1.10 -- than the USSR, 1.23, and Poland, 1.16, and a similar figure to that of the GDR, 1.09, and Yugoslavia, 1.07.

Table 1
Housing Conditions in Hungary

	1970	1980	1984
Amenities			
(Share of Stock)			
Dwellings with piped water	35.1	62.7	97.6
Equipped with indoor plumbing	26.4	51.4	65.7
Equipped with town gas	16.0	25.1	30.4
Bathroom or shower	30.8	58.5	73.0
Households/ Dwellings			
Number of households by 100 dwellings	108	105	102
Number of rooms by 1000 persons	496	659	768

Source: The Housing Situation in Hungary, Ministry of Interior, Budapest, Hungary, 1990.

The data in Table 1 provide additional evidence of Hungary's high level of investment in housing during the 1970-84 period. It provides two types of data. First, on the basic amenities of the housing stock at three points in time, 1970, 1980, and 1984, and second, on the number of households and individuals relative to the number of dwellings and rooms. These latter types of measure are often taken as measures of the absolute housing shortage in a country.

In the former case, in every instance but one--the share of the stock supplied with gas--the share of the stock with various amenities more than doubled, and the share supplied with gas almost doubled. This is one of the most rapid improvements in the housing stock of a country in a 15 year period. For example, a comparison of the change in the share of dwellings with any of the amenities in Table 1 over the 1970 to 1980 period with similar data from other countries shows the improvements in Hungary to be substantially higher than almost any other country.[10/] In addition, when the figures are compared with those of OECD economies with much higher income levels, such as Japan, Austria, and France, the share of the Hungarian housing stock with the amenities listed

10/ Matras (1989) documents that all measures of housing amenities increased more rapidly in Hungary than in other socialist economies she examined. Similarly, the rate of improvement exceeded those of almost all the economies documented in the U.N. Global Report on Human Settlements, see tables 17 and 18.

in Table 1 is relatively high.[11/] Finally, it appears that by 1986 Hungary had increased the amount by which the average unit size dwelling unit in the country--74 square meters--exceeded the size of the largest unit in its nearest East European comparator.[12/]

The data on what might be termed an absolute measure of the size of the housing shortage indicates that for all practical purposes the physical shortage of housing has been eliminated. By 1984 the ratio of households to dwellings had fallen to slightly more than one household per dwelling, 1.02. This figure compares with much higher figures for all East European economies except Germany's.[13/] It is also consistent with the data on the secular decline in the number of people in each housing unit over the 1960 to 1985 period. The decline of over 12 percent, from 3.1 residents per unit in 1960 to 2.7 per unit in 1984, suggests that the sharp increase in the housing stock relative to the almost constancy in the size of the population resulted in significant improvements in the amount of housing available.[14/]

B. An Explanation for The Perception of Shortages Among Plenty.

Given these data on the significant improvements in the housing stock, the frequent discussions and analyses of "housing shortages" in Hungary warrant some explanation. The work of Daniel and Semjen (1987) provides a partial perspective on this question, and when it is combined with some disaggregation of data an explanation emerges; there is both shortage and plenty. First, consider the

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11/ For data on OECD countries see Urban Statistics in OECD Countries, OECD, Paris, April, 1988. While strict data comparability is between Hungary and the OECD countries is not possible, it appears that the share of the Hungarian housing stock with the amenities listed in Table 1 is close to if not surpassing that of the OECD group for which data is available even though the per capita income levels in the latter are much higher than Hungary's.

12/ A comparison of Sillince (1990) later data on Hungary and Matras's (1989) time series for all East European countries shows that Hungary has had the largest average dwelling size since 1960.

13/ See Matras (1989) for this data.

14/ The change is also similar to that experienced by OECD economies over the time period. While exactly comparable data are not available, the average number of persons per private household in urban centers in OECD countries was 3.0 in 1960 and 2.5 in 1980. The national figures were higher but not readily available. Source: Ibid., Table 16. Another perspective on crowding is obtained by considering the number of rooms per dwelling. In 1977 the Hungarian average for completed units was 3.4 as opposed to an average of 2.9 in the six other East European countries, and 4.5 in a sample of six other members of the ECE. The Hungarian figure was slightly larger than that of Greece for the same year In sum, with respect to crowding, the Hungarian trends seem to be more like the OECD trends than the COMECON trends. Source: Major Trends in Housing Policy in ECE Countries, UN.1980.

framework developed by Daniel and Semjen. Their approach gives both a simple but compelling explanation for the simultaneous existence of the perception of shortage and high levels of investment in the housing sector, as well as empirical estimates of the different kinds of shortages for Budapest. While their quantitative estimates should be viewed as only giving a sense of the orders of magnitude involved, their approach nevertheless provides a logical accounting framework within which the spill-over effects of "shortage" can be measured and aggregated.

Their explanation, in turn, is a special case of Kornai's general theory of the functioning of a "shortage economy." This view suggests that the excess demand for underpriced goods creates its own shortage. In the case of the housing market, this excess demand occurs when families demand more of the extremely underpriced housing services available through state housing units. The average share of income paid on rent in state units was the same in the year of the survey their work is based on, 1980--2 percent of income--as it was in 1987. This price constancy suggests that the same kind of excess demand they described exists in today's housing market.

In order to develop their accounting framework, Daniel and Semjen use survey data to measure the amount of excess demand for different types of state-owned housing in Budapest. They argue that much higher rents--a level they estimate to be 520 percent increase over existing levels--is needed to move to a market price for rental housing.[15/] They then compute what they term an "external" shortage for state housing in Budapest--the difference between the housing units produced and demanded, a concept similar to the measure of absolute shortage noted in Table 1--and an "internal" shortage--the number of households who would prefer to have a larger housing unit than they currently occupy.

At the administered rent levels the external shortage was equal to 18,000 units--approximately equal to the annual level of housing production in Budapest.[16/] In this context, the shortage is large, equal to a year's production. But, the internal shortage was even larger, over 46,000 units. In other words, the internal shortage was a multiple of the external shortage. More than twice as many households would have preferred to move to a another unit as needed a new unit.

They infer that if rents were increased both kinds of shortage would decline as families would respond to the higher costs by making better use of the existing stock and more efficiently arrange their housing consumption

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15/ The estimate that rents would have to increase by 520 percent from the 2 to 3 percent of income charged appears conservative when a comparison is made with the share of income allocated to housing by subsidized families in more market-oriented economies. For example, the comparable figures for Sweden, Finland, the U.K. and France all exceed 20 percent of income. On the first two countries see Major Trends in ... op.cit. For the latter two countries see Maclennon and others (1990).

16/ On production in Budapest the data are from The Housing Situation in Hungary. The average for the 1980-88 period was 18,000 units per year.

patterns. Interestingly, not only did the internal shortage fall as rents were increased, but so too did the external shortage. At market level rents, the external shortage falls by 12,000 units--almost 70 percent of annual production. In other words, if these estimates are accurate, on the order of 70 percent of the shortage of new units in Budapest could be eliminated by better use of the existing housing stock. Hence, not only would a rent increase be expected to lead to more effective use of existing resources, it should also reduce the pressures to invest new resources in housing.

This kind of explanation for the perception of a housing shortage at the same time that production and amenity data indicate very rapid rates of improvement implies that a central problem of the housing sector is that the existing housing stock's allocation is very inefficient: sustained high levels of new production and the assignment of a great deal of the economy's resources have not substantially improved the ability to purchase the kind of housing services desired, even though they have improved conditions significantly.

More evidence that the stock of housing may be misallocated among households can be gleaned by examining the distribution of units by size relative to the average size of all units. As noted earlier, Hungary has had the largest average housing unit size in Eastern Europe since 1960. However, it also has one the largest shares of units with few rooms. According to Sillince (1990) almost 20 percent of the housing stock had only one-room and almost 48 percent were two rooms. These figures are much more austere than the Polish and Czechoslovakian data, and similar to the data on Romania and Bulgaria. More importantly, when these figures are compared with the national averages on unit size, it is clear that if the data across countries are consistent, that distributions by housing unit size suggest that the variation across the range of housing sizes is much greater in Hungary than in the comparators with similar shares of the population in small units. For example, the average housing unit size in Hungary is almost 150 percent larger than in Romania even though both have a similar share of units with very few rooms.[17/]

From the Daniel and Semjen perspective one can also infer a general sense of strategy for dealing with the housing shortage: not only does new production not effectively address the shortage faced by existing households, but the opposite does apply: addressing the inefficiency in the allocation of the existing stock reduces the need for new housing as well. This perspective, then, implies that the most important policy changes for the sector are those that affect the use of the existing housing stock rather than those that address new production. Improvement in the use and allocation of the existing stock reduces

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17/ For example, the Polish figures for one and two room units are 11 and 31 percent, respectively, and the Czech units of this size account for only a tiny fraction of the stock. In addition, the size of the average Hungarian unit 74 square meters in 1986 was almost 150 larger than the size of the average Romanian unit's size of 30.5 square meters. Sources: for the Czech and Polish data are from presentations at an ECE conference on Housing Policies in Eastern European Countries, Dec.1990, Bucharest; the Romania data are from the Romanian National Monograph, presented at the Bucharest conference; the Hungarian data are from Sillince, op. cit.

the disequilibrium in the demand for new housing. In contrast, a sustained period of high levels of heavily subsidized new housing production has not eliminated the sense of shortage that characterizes much of the discussion of the housing sector in Hungary.

These results, as well as the secular decline in the number of residents in each housing unit, are also consistent with empirical work on the U.S. and the U.K. which show that the rate at which individuals form separate households is sensitive to housing costs.[18/] The lower the costs of forming a separate unit, the more likely such a unit is formed. In other words, trying to eliminate the absolute housing shortage in an environment of low rents is like shooting at a moving target. The more housing that is made available at low costs, the more that is demanded.

To sum up, it is clear that the housing sector is undergoing very significant change: production levels have fallen off sharply after sustained high levels of investment; the share of GMP invested in the sector is about 3 percent lower than it was in the 1970s; the ownership responsibility for most of the housing in Budapest--a housing stock in need of considerable renovation--is being transferred to a newly established fiscal entity, the city; and rents are extraordinarily low by the standards of market-oriented economies.

In addition to these sectoral changes, the adjustment program has also caused higher borrowing rates and input prices, a need for much more carefully-targeted subsidies to the sector that account for a much smaller share of government resources, and the need for more financial resource mobilization and competition. Cumulatively, it is clear that besides the longer term objective of restructuring the housing sector so that its functioning is more consistent and harmonious with a market-oriented economy, there is an immediate need to restructure policies in this sector so that these policies do not impede or derail the broader adjustment program that is now in process.

As this paper will detail, the housing sector's functioning has implications for and interacts with financial, fiscal, and tax policies. And, at least in the short-term, policies in this sector will also play an important role in the new inter-governmental relations that are now being established. Consequently, a broad-based strategy for the sector should be developed that takes these linkages with the overall economy into account.

18/ Hendershott and Smith "Household Formations," National Bureau of Economic Research, Working Paper 1390, 1984 for the U.S., and Ermisch, Scottish Journal of Political Economy, 1980 for the U.K.

II. HOUSING SECTOR REFORMS: OBJECTIVES AND CONSTRAINTS

A. The Objectives of the Reforms

The long-term objective of reform is the development of a more market-oriented housing system that is both consistent with the broader economic reforms concurrently in progress and protective of those least able to absorb the costs of the adjustment process. In other words, the reforms attempt to maintain a social safety net while stimulating movement to a market-based housing system.

The immediate objective is the development of those policies, institutions, and laws that will facilitate the enactment of a better-functioning housing and housing finance system. The absence of such a system causes the perpetuation of--and indeed the expansion of--the existing distortions that impair not only the sector but also the economy. For example, the lack of a resilient, competitive supply of housing finance not only impedes the efficient and equitable transfer of ownership of government-owned housing, it also impedes the development of a more effective financial system.

The recommendations made here give recognition to the fact that it will take time to move to a market-oriented system, and that during this transition period complementary measures are needed to assure that improvements on one policy front are not offset by reversals on another.[19/] For instance, if rent increases are not accompanied by a restriction on the sale of government units at substantially less than their market value, then the improvement in one policy will simply lead to a deterioration in another policy.

B. A Summary of the Current Policy Situation.

Subsidies. The current system of subsidies is badly targeted, poorly measured in government budget documents, comprises a significant share of government transfers, and is very inefficiently structured.

Property Rights. The current system of property rights impedes and/or constrains other economic adjustment processes, such as the mobility of labor, and the development of effective inter-governmental relations between the central and local governing units. The system lends itself to corruption and/or unfair distribution of a significant component of national wealth, and results in a severely under-maintained housing stock.

Finance. The housing finance system has recently been restructured. However, the restructuring is not complete. The new system imposes a large contingent liability on government, does not generate the financial resources that are essential for the development of efficient property rights and well-

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19/ See Daniel and Partos (1989) for a discussion of the timing and sequencing issues involved with reform, and Renaud (1990) for an analysis of the views of representatives of six reforming socialist economies.

targeted subsidies, and fails to function as a prudent financial intermediary would. Moreover, some of the recent proposals for privatization would make local governments responsible for providing large implicit interest rate subsidies of the sort that have recently terminated in the financial system.

Institutions. The changes in the sector are not only far-reaching, in many cases they require either new institutions (e.g. see recommendation 7, page vi) or new institutional arrangements. There is, as a result, an institutional vacuum that constrains the reform process. As mentioned above, the problems posed by the current situation are inter-related with each other and with other broader reforms in the economy. Many aspects of the situation are complex and misunderstood. They also often raise very fundamental issues about the distribution of wealth. Finally, there is a lack of information on the full implications of reforms for different segments of society, such as pensioners and the very poor.

Hence, from an analytical perspective considerable attention needs to be given to design, sequencing, and complementarily of reform actions so that the gains from the implementation of one specific reform is not dissipated through the expansion or misuse of a still existing complementary distortion in the sector. From an operational perspective, attention needs to be given to the establishment of a coordinating body that can deal with these diverse policy issues. The Government of Hungary has established such a body to help develop the Housing Act for presentation to Parliament during 1991. However, these cross-cutting issues will remain after the law has been passed, and hence, the deliberations of this body are more than a short-run concern. To help focus discussion on implementation issues and to distinguish them from the longer term goals for reform, the next section first identifies the long-run principles of reform, and then discusses a number of steps to achieve these principles.

III. THE CHIEF CONSTRAINTS ON REFORM

A. Subsidy Targeting: Maintaining a Safety Net While Stimulating Movement to a Market System

Subsidies in the housing sector are large, mismeasured and misunderstood. For example, one of the largest subsidies to the sector--the difference between the rent that households actually pay and the rent that would be charged by a market-oriented supplier of housing--is included only partially and indirectly in government budgets. (See Annex 1 for details and quantification of this lack of subsidy transparency.) On the other hand, the largest measured subsidy to the sector--that on the old portfolio of NSB loans--is an income transfer to holders of the low interest rate loans as well as a form of implicit deposit insurance for the depositors in the country's largest bank. The government's willingness to bear this cost--rather than impose it on the depositors whose deposits would have lost most of their value due to the change in interest rates--is important because it shows the government is willing to incur costs to maintain the credibility of the banking system. Nevertheless, even if not measured effectively, the subsidies to the sector are both very large and very poorly distributed.

1. Problems of the Current Situation

(a) Allocational Equity. In the aggregate the average higher income household (in the 85-90th income percentile group) receives about a 30 percent higher rental (maintenance) subsidy and about the same homeownership subsidies as the average lower income family (in the 10-15 percent income group).[20/] This result is partially a legacy of the socialist in-kind distribution system. However, in the future, one would expect the state to do more for lower income families and less for upper income families.

(b) Efficiency. The price mechanism has not been used to direct the allocation of state-owned units to those who are willing to pay for and maintain them. Consequently, most households confront very large distortions in choosing where to live and how much housing to consume, and in allocating the additional "income" they receive due to the low level of income needed to pay for rents. The rent level was equal to 2 percent of income in 1987.[21/] According to one study, by Daniel (1985), this rent reduction corresponds to a 15 percent wage increase for those who rent. In addition, a significant portion of current subsidies given to first time buyers essentially substitutes government transfers for borrowing that the household could undertake if the appropriate financial instrument existed.

20/ The Incidence Study (1989) prepared by the Ministry of Finance and the Central Statistical Office.

21/ Source: cited in Daniel and Partos (1989).

(c) Budgetary Issues. The budgetary concerns raised by the lack of attention to the real rent transfers given to tenants in state housing by budgetary measures diverts attention from one of the most important inefficiencies in the existing system--the enormous transfers through low rents that are now given to almost everyone, regardless of their need.

(d) The Social Distribution System. The present subsidy-wage system is such that workers receive lower wages and pay lower rents as part of a general entitlement. In a sense, through their lower wages, workers pay implicit taxes on their earnings to finance the implicit subsidies they receive through lower rents. In order to be able to afford market level rents--which amount to 20 to 25 percent of the wages of more highly paid workers in market economies--workers need to receive market level rather than implicitly taxed wages. The timing of rent and wage increases is a difficult empirical and conceptual issue that has many of the dimensions of the classic "chicken-or-egg" question: which comes first the rent or wage increase, and by how much should each be increased? Nevertheless, it is clear that if housing subsidies can be better targeted, tax cuts can be implemented that can increase after tax wages.[22/]

2. The Main Principles of Subsidy Policy

The main principles of subsidy policy are that subsidies should: (1) be given only to those who are designated as needing assistance and be as transparent and well-targeted as possible; and (2) be financed through explicit taxes rather than through a "social distribution" package that includes largely below market-prices and lower wages. These principles imply that the current approach, which provides some subsidies to almost everyone and simultaneously reduces wages, needs to be changed.

Also implied by these principles is that a much better method of accounting for subsidies is necessary, and that the very large subsidies given to a small number of households--for example, the present value of some interest rate subsidies is a multiple of annual income--need to be reduced. Efforts should be taken to clarify the relationship between the economic and accounting measures of transfers that are given to the sector or to ancillary seccors, such as the housing finance system.

Finally, these principles imply that wage reform is one of the central complementary changes that should accompany the improved targeting of subsidies to a more limited number of families. However, the identification of this link between reduced wages and correspondingly lower housing costs is not meant to suggest that rent increases cannot be made without first increasing wages. Rent increases that are not affordable by those thought to be vulnerable should be

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22/ The overall tax and subsidy system affecting households is addressed in a broader study on the Social Policy and Distribution System (IBRD forthcoming), of which this housing sector report is one component.

ddressed by explicit subsidies. Annex 1 provides a detailed discussion of how system of improved subsidy targeting would work in the Hungarian context. It lso provides stylized estimates of how this kind of system would affect overnment expenditures on the sector.

3. Steps to a more Market-Oriented System that Shelters the Poor.

In terms of rental sector policies, the following steps should apply:

(a) The price mechanism should be used to direct the allocation of units. Rents for most units should be increased in steps until they are at market levels. The total volume of subsidies--inclusive of the real rent transfers--must be reduced substantially.

(b) Families with lower incomes and or pensioners--perhaps the lowest quarter or third of the income distribution--should be protected from having to spend an unreasonable share of their incomes on housing and associated utilities' services. A housing allowance, receipt of which is conditioned on the household having a low income (adjusted for family size), should be implemented. Again, see Annex 1 for more details on the structure and details of a housing allowance program.

The burden of higher rents will fall most heavily on households living in units larger than that which they need, thereby encouraging them to move to smaller units or to buy a house. (They can remain in the large units, if they pay the full rent.) At the same time, families living in small units with a low degree of "comfort" will pay a lower rent than the typical household. (Note that no group of households would in principle be exempt from rent increases as under the housing allowance introduced in January; each household would have to qualify for the housing allowance and even most allowance recipients may pay somewhat more in rent than they do at present. Nevertheless, it is likely that some of the pensioners who reside in state housing actually would receive a slight improvement in their situation. Of course this issue is an essential design component that must be more carefully examined.)

(c) The higher rents should be sufficient to pay for full maintenance costs and improved services generally. Therefore, state budget allocations for this purpose could be discontinued as soon as possible.

(d) At present there is a ceiling on how much rent is owed that is based on the room size of the unit. Beyond a particular size,--80 square meters for 2 room flats, 100 square meters for 3 room flats --rent is not increased. This policy tends to be inequitable and inefficient, particularly when it is noted that households in the

highest income quartile are twice as likely to reside in such large units as are households in the bottom income quartile.[23/]

There is an equal need for wholesale revision and some reduction in the subsidies now available to those buying their dwellings. In revising these subsidies the following steps should apply:

(e) Subsidies should be more tightly targeted to lower income families. Above some income level much smaller subsidies and more opportunity for finance should be available. Larger families would receive greater subsidies than smaller families with the same income.

(f) For most subsidies the preferred subsidy form is an up-front grant because its impact on the state budget is immediately clear and because of the problems encountered in the past with deferred interest rate subsidies. The issue of subsidized housing for homeowners who have low incomes and poor housing conditions should be investigated further.

(g) Employers should be prohibited from making grants or subsidized housing loans to their employees without including this assistance in income that is subject to income tax provisions. Under current economic conditions, with many state enterprises having monopoly powers and/or still facing a "soft budget constraint," the state and consumers are paying for this (rather than the grants being part of a compensation package determined with a competitive market for the firm's output), and the employee is not being taxed on what can often be a substantial part of his income.

(h) The present system of subsidies litters the production, distribution, financing, allocation and consumption of housing. This kind of system makes it very difficult to determine who the beneficiaries are. The rationale for continued subsidies to producers should be investigated more thoroughly. It is not clear that supply side subsidies are at all effective.

(i) The system of measuring the economic transfers to the sector needs considerable attention. Present accounting measures of subsidies to the sector bear little relationship to the implicit transfers that occur. This lack of transparency complicates discussion of the form and structure of subsidies to thesector.

B. More Effective Use of the State Rental Housing Stock

For Hungary to successfully emerge from its economic challenges, all of its scarce national resources must be managed prudently. One such limited national resource is housing. Its scarcity is reflected in its high market

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23/ Computations and cross-tabulations were performed by Dr. Gabor Csenadi at the request of Bank consultant Vedat Milor on data collected by the Social Research Informatics Center, Budapest 1990.

value. Even if the average value of the 800,000 state owned housing units is only Ft. 1,000,000, then the total is almost Ft. 800 billion. The property rights for these resources are larger than those of the financial system.[24/] Finally, because most tenants can now effectively "sell" their subsidized units, inclusive of a partially capitalized prospective subsidy, Hungary effectively has almost no rental housing at all. This arrangement of property rights is clearly inefficient, is an impediment to mobility, and exacerbates social tensions.

1. Problems of the Current Situation

(a) Allocation: Most rental housing subsidies go to households in the upper half of the income distribution.[25/] If higher rents were charged, many of such households would use their assets and income to purchase a private home, thus freeing a subsidized rental unit for households more in need. If higher-income families elected instead to continue to rent, they would provide revenue to the government to spend on those in need.

(b) Mobility: The ability to trade publicly-owned units encourages mobility, but the current method permits occupants to capture much of the future subsidies by selling their units on a "grey market." Housing assistance payments, such as those provided by a housing allowance program, would give the subsidy to the needy family and not to the unit. Further, because there is effectively no unsubsidized finance available, sales of "tenant ownership rights" are more difficult and mobility must be lower than it would be if the tenant had no ownership interest.[26/]

24/ The assumptions in the text imply that the public housing stock is worth about 60 percent of GDP, whereas broadly defined monetary assets were equal to less than 47 percent of GDP. Data on monetary assets from the World Development Report, 1989.

25/ See Daniel (1985) for an analysis of this distribution, or for more recent statistical detail see the Incidence Study prepared by the Central Statistical Office, op. cit.

26/ Tosics and Hegedus (1990) in a number of papers give a detailed description of the extensive "grey market" for housing services that exists whereby sitting tenants are able to "sell" their rights to a heavily subsidized housing unit. The existence of a large stock of such "expected to be subsidized" units complicates the distributional problems associated with a policy of rapidly increasing rents. For example, consider the case of a flat for which a household recently paid a large amount for pseudo-ownership rights to a third party: If rents are increased the expectations about the amount of subsidies that will flow to the unit will have been too high, and the purchaser will not be able to recover his "investment." Indeed, if the rent is increased to the market level the grey market value of the unit will fall to zero. However, to not increase the rents on units sold in the grey market, out of a sense of fairness to purchasers of such units, while increasing them for other sitting tenants would create a more regressive distributional problem. The poorest families are unable to

(c) Maintenance: There is a need to create incentives to arrest the undermaintenance of the public housing stock. Estimates indicate that the renovation needs of the existing stock are on the order of 200 billion forints. While these estimates need to be examined, it is clear that the stock has been severely undermaintained for a long time period. There is also a need to end the monopoly on management by the IKV's and to improve the efficiency and responsiveness of maintenance activities.

(d) Special Problems of Budapest: Over 50 percent of the Budapest housing stock and a greater share of the central city stock is public housing. Over 30 percent of this stock is over 60 years old, and another 25 percent is over 35 years old[27/] and most of it is in need of major renovation. This stock will be under enormous pressure for a change in use as the Hungarian economy transforms and Budapest becomes one of the largest cities in central Europe.

2. The Main Principles of More Effective Use of the Rental Stock

The solution to the tensions surrounding the use of the state rental housing stock is to operate it on a market basis, with any subsidies provided separately on the basis of the needs of the household. This implies that the rents should rise to the point where demand equals supply, and that any sales should take place at market prices. During the transition to this market system, no explicit account would be taken of the current "grey market" value of transferring occupancy rights, which would ultimately disappear once subsidies are tied to households rather than housing units. (This is discussed more fully in Annex 2.)

Market operation would guarantee ready access by young households to a unit (with or without the help of a housing allowance subsidy) and permit families to change their housing consumption or location as their needs or incomes change. Those who are not deemed deserving of a subsidy and are not willing to pay market rent would have to move to a lower cost unit or buy a house. Funds would become available from the higher rents to renovate older buildings. Finally, if eviction powers are strengthened, the private rental market would grow and compete with the state-owned units.

3. Steps to Market Operation

(a) Immediately prohibit sales of units at less than the market price. Also, prohibit the provision of below market rate financing by the local councils. It should also be recognized that selling the public housing stock on installment terms that rely on low interest rates to set the repayments are not only subsidies, they undermine financial development by having the government provide a service that the financial sector should supply.

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participate in the grey market.

27/ Sandor Kadas, " Analysis of the Housing Market and Housing Policy in the Budapest Metropolitan Area," manuscript, (1989).

(b) Transfer of ownership to local government units should be done with a variety of restrictions. The local government units are better able to distribute the subsidies that some units will need, as well as to manage the units that can be sold after a sustainable housing finance system is established. The restrictions on these governmental units are: (a) Require local councils to apply the restriction noted in proviso #1 in order to protect the interests of the country; (b) If central government adopts a housing assistance program, such as a housing allowance scheme, the assistance should be available for local government housing units only if rents for all housing units under their control are at market levels, or the government has agreed to move rents to this level; (c) Inheritance of public units should be prohibited; and (d) An explicit allocation policy or criteria for eligibility for assistance should be adopted.

(c) Create a supervisory body to audit the self-governing unit's management and disposition of housing-related assets. The functional responsibility of this body should be limited and similar in spirit in many respects to that of the National Property Disposition Agency, i.e., to assure that the nation's assets are put to the highest and best uses and that alternative uses are recognized as subsidies. However, supervision and auditing functions are also involved with the on-going management of the housing stock. The supervision of this activity is in principle more akin to that of managing an ongoing financial concern, e.g., a banking supervision type responsibility.

(d) Privatize management and maintenance functions. Prohibit ownership interest in a maintenance company by local government itself, to insure more competition and no conflict of interest. Require competitive bidding on management contracts, with each contract covering no more than 200-300 units.

(e) Payments for maintenance services should be made directly and not net of rent collections. Rents should be accounted for as income to the government, and all maintenance expenses should be accounted for as expenditures. Maintenance and other expenditures do not get proper scrutiny as long as covered by rent receipts.

(f) Government houses should be available for purchase by non-tenants at market prices as they become vacant.

(g) With appropriate but limited protection for sitting tenants, entire buildings may be sold for redevelopment. For example, tenants could have one year from the time of sale to secure alternative housing. If the tenant is over 60 years of age, the government must find alternative (but not necessarily equivalent) housing. General guidelines for relocation compensation should be developed and given by the central government.

(h) Prohibit local governments from regulating the private rental market beyond health and safety considerations to prevent the imposition of restrictive rent controls or excessive tenant protections.

(i) Central Budapest should be designated a special area with sharper increases in commercial and residential rents, coupled with increased powers of eviction and improved relocation assistance, to help with the renovation and transformation of its buildings into higher valued uses. Special provisions for

sales of buildings, architectural preservation and harmonization, and foreign participation may be needed. (See Annex 2.)

C. The Development of a Sustainable Supply of Housing Finance

The supply of housing finance in Hungary has recently been restructured at significant cost to the Government of Hungary. The GOH has taken on budgetary responsibility for the difference between the current interest rate on its debt and the approximately 3 percent interest on NSB's outstanding portfolio of mortgage loans. This loss recognition by the GOH is a significant improvement over attempting to impose these costs on either the depositors of the institution that financed the loans, i.e., the nation's largest bank, the National Savings Bank (NSB), or on the financial system.[28/]

However, the restructuring of NSB is not without problems. In January 1991 legislation was passed that increased the interest rates on the old loans. Borrowers were given the option of paying a 15 percent interest rate or the market rate of interest, 30 percent, on 50 percent of the old loan value. A minimum payment of forints 1500 per month was also required. This loss recognition by the GOH and movement towards market rate lending is a significant improvement on the old policy of making below market interest rate loans with fixed interest rates. However, the adjustable rate loans that are now supplied are indexed to nominal interest rates and consequently carry high nominal interest rates. For the housing sector the result is that the supply of housing credit is contracting even though the NSB has been at least in principle enabled to compete. For the financial sector the result is that the nation's largest bank cannot compete for funds with its current structure.

1. Problems of the Current Situation

(a) Affordability. At current rates of inflation--on the order of 30 to 35 percent per year--conventional nominal interest rate mortgages are unaffordable. This problem occurs because of the redistribution of real payments towards the early years of the loan rather than because of high real costs. Until this past budget, the GOH was relying on subsidies to "buy down" the high level of monthly payments in the early loan years rather than using a mortgage instrument indexed to prices that could redistribute nominal payments so that they became more evenly spread over the period of the loan--i.e., like the payments when inflation was low. These current subsidies are not only an inefficient use of resources, they are a regressive one. Only the highest income households are able to mobilize the additional resources necessary to qualify for the assistance. However, to eliminate these subsidies without excluding young families from the market requires that alternatives to the current nominal based indexes be used.

This "cash-flow" rather than cost of borrowing problem is depicted in Figure 2. The figure compares the time pattern of real repayments under the current loan program, called VRM in the figure, and an indexed instrument, called

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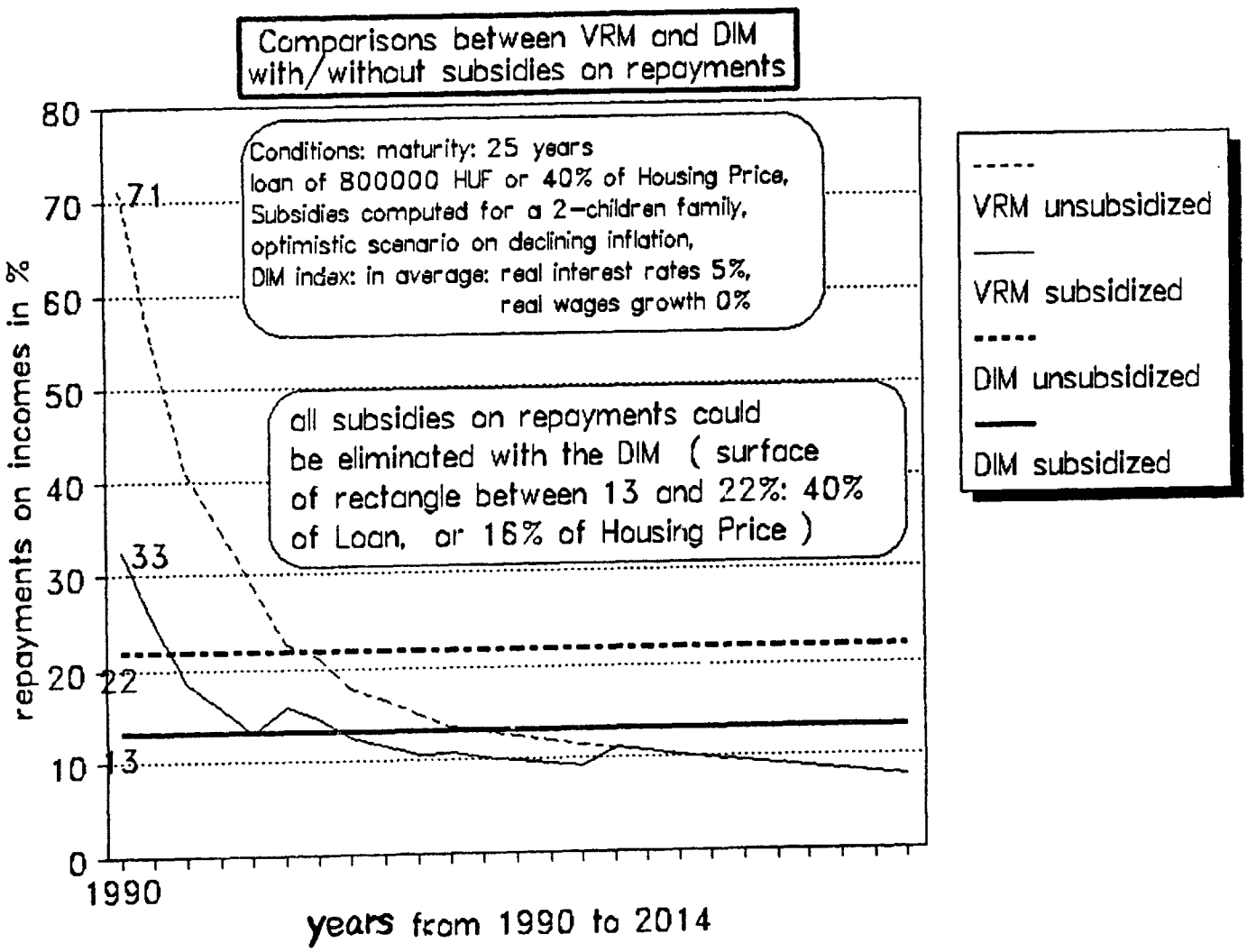
28/ See Sagari (1990) for a discussion of options for dealing with the low interest rate loans.

DIM in the figure. While the figure obviously depends on a number of assumptions about the course of inflation and the amount borrowed, the central point of difference is that with a price indexed instrument the same amount of funds can be borrowed by a family which pays 22 percent of its income every year as can be borrowed by a family which has to pay over 70 percent of its first year's income to make the payments on the loan with a nominal interest rate, even if the nominal interest rate is variable. The figure also shows how the current subsidy system lowers payments in the early years of the loan, and compares the current subsidy with the same level of subsidy given to a family that used an indexed mortgage to finance their purchase.

FIGURE 2

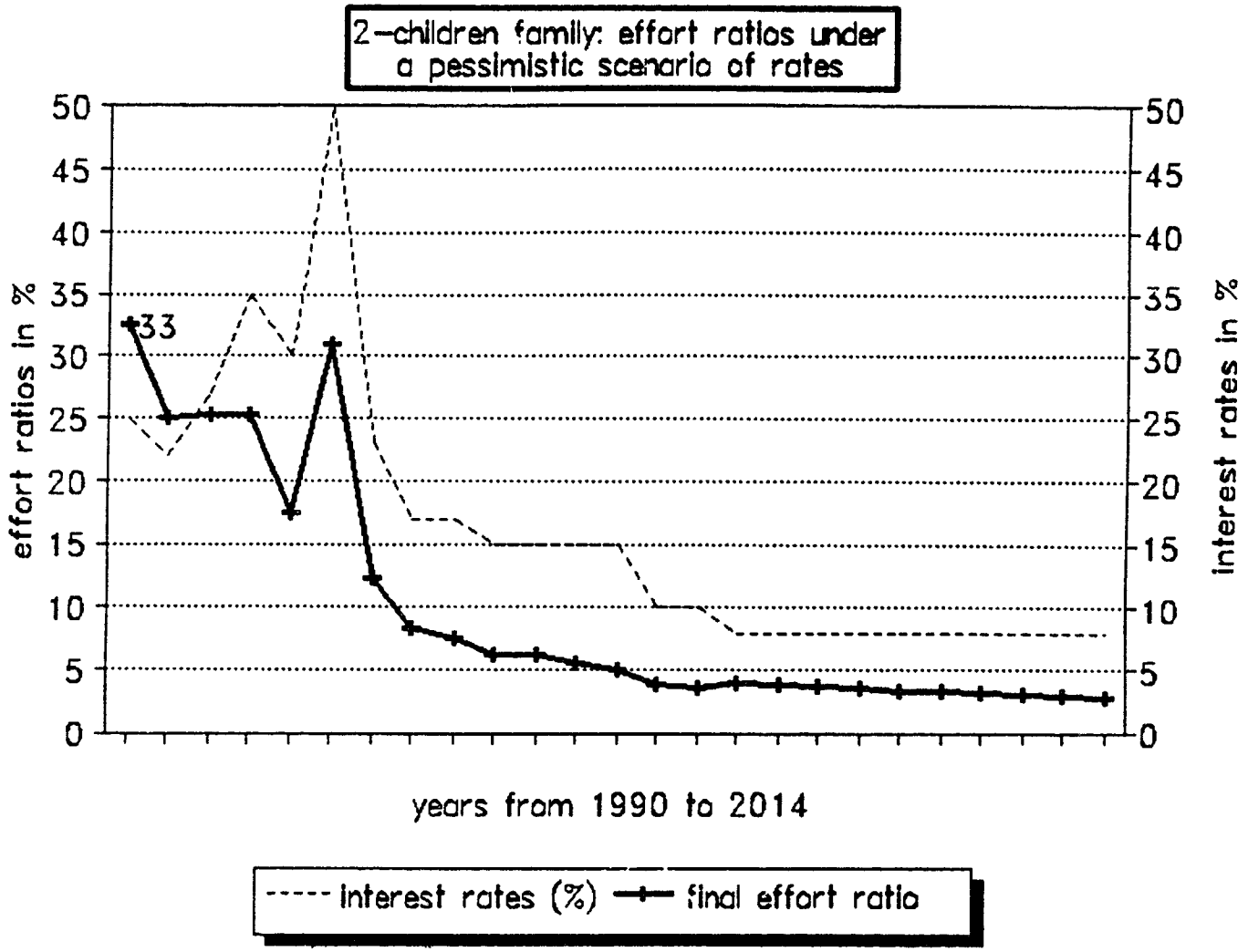


(b) NSB is at considerable risk. The restructuring of NSB is incomplete. The movement to adjustable interest rates from low, fixed interest rate loans was a step in the right direction. However, the current interest rates on the NSB loans is 30 percent. If inflation increases, households will experience difficulty in servicing these loans. They can do so now only because the government subsidizes the payments during the first 5 years of the loan. After that the subsidy is reduced for those who have received loans over the past few years--it is also eliminated for all prospective borrowers--and payments could go up considerably because the interest rate is adjustable. Figure 3 shows how a family's payment to income ratio could behave if the inflation rate increases at the same time that the government subsidy is reduced. In the example given the share of income needed to pay off the loan increases from less than 20 percent of income to more than 30 percent of income. Moreover, it is worth remembering that this more than 10 percent increase would occur at the same time that inflationary pressures were creating general affordability problems for the family.

(c) Lack of Finance Constrains Other Policy Changes. Improvements in subsidy targeting or better use of the housing stock, including possible privatization, are fundamentally affected by the availability of finance. One of the chief reasons that state housing has been given away at such low prices--as little as 15 percent of value of comparable private units[29/]--is that without finance, tenants cannot afford to pay market value. Increasing the supply of finance for such a long-term investment is much like adding a lubricant to a machine. Without the lubrication, adjustments of other sectoral policies will be constrained.

29/ Hegedus and Toscis, (1990).

FIGURE 3


2-children family: effort ratios under a pessimistic scenario of rates
effort ratios in %
interest rates in %
50
45
40
35
30
25
20
15
10
5
0
33
years from 1990 to 2014
interest rates (%)
final effort ratio

2. Steps to Move to Market Operations

The chief principle of an effective housing finance system in the Hungarian context is the provision of financial contracts that clearly identify the risks involved, and which are designed so that all the parties involved in the contract may share these risks in a reasonable way. A well-functioning housing finance system should allocate these risks so that the party with the comparative advantage in bearing a specific risk or portion of it does indeed bear it, while paying the other party for bearing the other risks involved. When this sort of risk distribution is realized, risks can be borne at the lowest, prudentially sound cost. Several steps are needed to achieve this.

(a) The NSB or other financial institutions could supply price indexed mortgage instruments that are financed with similarly indexed liabilities so that the portfolio of the lender is matched. In Hungary's uncertain wage environment, considerable attention should be paid to the structure of these instruments. In particular, in addition to providing indexation to prices, which protects the real value of the loan from changes in the inflation rate, attention should be given to assuring that the repayment changes implied by a price index are affordable given wage changes. The desirability of relying on a dual index instrument as has been used with considerable success in Mexico and France should be given careful consideration.[30/]

The basic advantage of a price indexed mortgage instrument is that it eliminates the tilting of real inflation-adjusted mortgage payments such as those depicted in Figure 2. It does this by recasting the repayment stream out over future years, as represented by the schedule marked DIM in the figure. Importantly, this rearrangement of repayments is not a subsidy. Rather, it is an alternative basis of contracting. A dual index instrument balances the borrowers' ability to repay out of current income and the lender's concern with a real, inflation-corrected return. This is done by using a wage index to determine the ability of the borrower to repay, and a price index to determine the outstanding balance of the outstanding loan. The instrument allows shortfalls in real repayments, due to a reduction in real wages, to be capitalized into the loan and repaid either through future real wage increases or maturity extension.

Annex 3 provides a fuller discussion of the instrument's design features. It points out that there are costs as well as benefits to the use of this kind of mortgage instrument. In addition, it is important to emphasize the need both for careful design and monitoring of this form of intermediation and the need for the consistent integration of this policy with broader financial sector policy. In particular, while indexation of mortgage repayments has a great deal

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30/ See R. Buckley, B. Lipman, and T. Persaud, " Mortgage Design Under Inflation and Real Wage Uncertainty: The Use of a Dual Index Instrument," World Bank, INU Paper No.62, 1989, forthcoming World Development, 1991 for a discussion of the analytics of this kind of mortgage indexation, and a review of the experience of mortgage indexation in a number of developing countries.

to recommend it from both a budgetary perspective and an improving housing affordability perspective, any such policy must be seen as a part of, rather than a substitute for, effective monetary policy. If indexation can permit a financial instrument to substitute for an existing subsidy, it may well contribute to both a reduction in the transfers to the sector and an improvement in both financial sector functioning and in the stabilization program.[31/]

(b) These new financial instruments should be used to reduce, ideally to zero, the mortgage subsidies currently given to buyers of new homes and first time buyers. At the same time they could also be used to reduce the government's contingent liability for the mortgage lending by NSB. The central rational for this kind of financial innovation is that it can reduce transfers and government liabilities by changing the means through which government addresses housing and mortgage credit affordability problems. Hence, this kind of innovation is not meant to be implemented in addition to existing subsidies and lending mechanisms but rather in place of them. As is discussed below, these instruments for new loans should be made consistent with the financing and transfers implied by the old portfolio.

(c) NSB's functions as a financial intermediary and housing assistance provider need to be separated and clarified. In 1989, NSB provided the financing for about one third of private house building, much of this through a traditional relationship with local councils. NSB can no doubt provide many development-like services at a relatively low price. However, whether the provision of this kind of service is consistent with its more important financial resource mobilization functions is problematic. When a lender becomes so closely tied to the interest of a user of funds, it is very difficult to simultaneously also represent the interests of the depositors, or sources of funds. Even more problematic is the issue of whether a government supported developer--which is essentially NSB's main non-banking function--can be so closely tied to market-oriented financial intermediation.

(d) At present, interest rate subsidies are given to builders under a central bank rediscount scheme designed to encourage small builders. This program should be ended. The program has not been very active because of regulatory constraints. However, like the subsidies identified under point 2 above, it provides government transfers in lieu of a financial service that could be provided by the banking system. In addition, to the extent that it has been utilized it has not encouraged the development of small-scale private entrepreneurs. Rather, it has gone to already subsidized state enterprises.

31/ Besides substituting for existing subsidies, indexed mortgages could also substitute for more risky existing financial instruments, such as the currently used nominal interest rate adjustable rate mortgages cum subsidy. As is detailed in Figure 3 a run-up in the inflation rate could increase the risk of household repayment default much more significantly than would many kinds of price indexed instruments. As a result, even if indexed mortgages were not used to replace existing subsidies, they could still have a beneficial effect on reducing the government's contingent liability for housing finance.

(e) At present there are no foreclosure procedures governing mortgages. A fair and expeditious adjudication process is an important aspect of this kind of lending. Its development is a basic fundamental for the sector.

(f) Compulsory savings schemes of the type recently initiated by NSB in which first time buyers have to save for a number of years before gaining access to the subsidy are an improvement over savings schemes in which investors are forced to hold below-market interest rate assets. However, with the appropriate types of financial instruments, NSB, and more generally mortgage lending, should be able to compete for resources quite effectively.[32/]

32/ R. Buckley and A. Dokeniya, " Inflation, Monetary Balances and the Aggregate Production Function: The Case of Colombia," INU Paper No.56,1989, provides an empirical analysis of the effects of an effective mortgage indexation system on the Colombian financial system and economy.

IV. HOW TO PROCEED: IMPLEMENTATION ISSUES: IMMEDIATE POLICIES AND LONG-TERM GOALS

Hungary is currently undertaking extraordinary simultaneous changes. Some of the more important ones relate to Hungary's tax laws, financial system, and incorporation regulations. Hungary is also in the process of privatizing a significant share of the corporate sector and of changing its wage and social policy, as well as the basic relationships between central and local governments. Virtually all of these policy changes have implications for the functioning of the housing market, and, similarly, so too does the functioning of the housing sector have implications for the ease with which these broader reforms can be implemented.

As desirable as these housing sector reforms may be, most will not be adopted until complementary reforms in other sectors are realized. For instance, rents cannot go to the market level--which according to some observers, Daniel and Semjen (1987), may be five times current levels--without changes in subsidy policies. And, as section II argued, changes in policies with respect to the use of the existing stock--in particular, a reduced reliance on the use of an allocation method that both heavily and indiscriminately subsidizes such a large share of the housing stock--is fundamental to improving the functioning of the housing sector. In this respect, reforms should seek to facilitate this kind basic change.

A number of steps in this direction are easily identifiable. However, reform in the way housing credit is provided is probably the most immediate reform to address. Not only does its success depend less on the success of other reforms, but, in addition, if this credit is not available, it will be very difficult to generate the resources necessary to renovate the existing stock of housing. Finally, if credit is not available it will also be very difficult to target subsidies on those with the most need. International experience shows that when finance is not available, subsidies take their place and upper income households are the main beneficiaries. Hence, housing finance reforms can form the basis of a lead project in a multi-stage reform of the sector.

A. Stage 1.

The first stage in the sequence of reforms of the housing sector should be with respect to the provision of more market provided mortgage credit. However, as will be discussed below, this step should be implemented in concert with simultaneous policy steps taken with respect to other reforms. Nevertheless, there are good reasons for immediate pursuit of this kind of reform even if there were no beneficial effects on or tie-in to the other aspects of housing sector reform.

To begin with, finance is an important first step because the NSB's current financial structure is unsound. Without a reduction in interest rates, NSB is likely to incur financial problems in the next few years. Because NSB is as

large as the next three largest commercial banks put together, its problems in this respect are banking system problems as well as housing system problems.

Second, Hungary's financial system is underdeveloped. The provision of inflation-adjusted returns on financial instruments may offer significant opportunities for the development of the financial system. Without the introduction of new financial sector instruments or in the absence of a sharp and lasting drop in the inflation rate, financial sector development and ultimately overall economic development will be constrained.

Third, reforms in the housing finance system will ease pressure on the central government budget, as well as set a good precedent for rationalizing subsidies in the housing market. They should be politically more palatable because they involve eliminating an imperfection in the existing system--i.e., the absence of contracts that adjust for inflation--rather than an increase in rents or a reduction in subsidies for a substantial portion of the population.

In order to proceed with a restructuring of NSB, two things are necessary: (1) A very clear corporate strategy of what its role should be in the financial and housing systems. Development of this strategy requires the concurrence and approval of the banking and government authorities with its view that it should provide indexed financial instruments. NSB also needs central bank approval of and agreement with its view that its social role be clearly identified and separated from its banking role; and (2) A lasting resolution of the most effective way of dealing with the costs of the old loan program should be made.

Complementary Policies. There are two important complements to the provision of more affordable, competitive finance. First, the policy of selling the existing stock of state-owned housing at substantial discounts should be ended--such sales have often been rationalized on the basis that, due to the lack of finance, the units are not otherwise affordable. The development of finance will take some time--at least a few years--and the local government councils should be prevented from getting rid of their most valuable stock of housing and/or land at low prices prior to the establishment of a broader supply of mortgage credit, or in response to tenant pressures as the rental subsidy reform is debated. Second, while there is already considerable momentum to transfer the housing stock to local governments, this transfer should not be done without some constraints (for more on this see stage 3 below).

B. Stage 2.

In addition to the immediacy of a restructuring of the housing finance system, there are good reasons for proceeding rapidly with a changed housing subsidy system. In order to proceed in this area more analysis is necessary, as is more effort to explain to many Hungarians why change is essential. There is very clear resistance to the idea of an across-the-board, all encompassing rent increase. However, there is also very little understanding of how various segments of society would be affected by such a change in policy. Nevertheless, ultimately an efficient rental sector will only be achievable once an alternative to the current subsidy system is in place and rents are raised.

The first step to be taken in this area is to gather more analytical information about who would be affected by various reform proposals. A better

understanding must be developed of how various definitions of who should be included in the social safety net would affect the scale of transfers to the sector. This requires further analysis, of the type done by Hegedus, Struyk and Tosics (1991), as well as discussion among policy-makers, and dissemination of analytical and empirical results, so that the issue is better understood.[33/]

Besides providing a safety net strategy for those thought to be needy of protection from rent increases, it may also be effective to implement reforms from the other end of the rental market--that is, increase sharply the rents of the best apartments, those held by the highest income groups, or the largest units. This latter approach would not only avoid, at least temporarily, the complicated programmatic aspects of dealing with the equity problems associated with the inability of lower income families to afford rent increases, it would also help reduce the shortage of housing supply. From Daniel and Semjen's (1987) work, for instance, it can be inferred that an increase in rents to market levels would reduce the shortage of new housing production in Budapest by as much as 50 percent.

C. Stage 3.

If programs of finance and subsidy restructuring can be developed over the next two or three years, it will then be much easier to deal with the incentives necessary to maintain and develop the state owned housing stock. When such systems are in place, rents can be raised to market levels and those who wish to own can buy their unit at market prices or move to another housing unit without fear of missing out on subsidies. Unsubsidized finance will be available for households to become small-scale landlords through purchase of a second flat. The movement of households out of central Budapest and into the suburbs and their replacement by expanding commercial uses will be facilitated.

However, in the meantime--that is, before the development of a rationalized subsidy system and a competitive housing finance system--because of the deteriorated state of the public housing stock, local governments will be under some pressure to dispose of at least some portion of the stock more rapidly. This disposition should be controlled, as suggested by recommendation 3 in part II.2, as one would regulate the uses to which a financial institution puts its resources.

Local governing units should be given substantial flexibility, but they must also be held accountable for the most effective usage of the assets to which they are being given the property rights. The development of a central supervisory body could play a very important role in this area. On the other hand, the lack of such an institutional body or supervisory framework could lead

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33/ The paper was prepared with the assistance of USAID by two Hungarian housing market experts -- Jozsef Hedegus and Ivan Tosics -- working with a U.S. consultant and expert on housing allowance programs, Raymond Struyk. The Central Statistical Office in Budapest has made special tabulations of a household survey available to them so that a quantitative study should be available in Nov. 1990.

to very serious and lasting problems with both corruption and the sense of fairness that governs the transition to a more market-oriented system.

Finally, a very fundamental transition issue is : How should policy be affected by the high cost of housing ? Young families who do not have access to the second economy often cannot afford to buy housing without subsidies, and these subsidies account for a significant share of budgeted subsidies to the sector. It is clear that housing has appreciated in real terms. For example, Daniel and Partos (1989) show that in the 1970s house prices increased by 300 percent while wages increased by 250 percent.[34/]

The issue of affordability is very value-laden and fundamentally connected to notions of fairness. Hence, it is difficult if not impossible to discuss in a strictly analytical sense. However, a number of analytical aspects should be considered in evaluating this issue.

First, housing in Budapest will be expensive no matter what policy approach is taken. Budapest is one of the most populous metropolitan cities in central Europe and just as housing in major cities throughout the world is relatively expensive so too will housing in Budapest remain more expensive than elsewhere in Hungary[35/]. However, while it has a large population, it does not have a densely collected population per square kilometer. According to U.N. data for the early 1980s Budapest was the third most populous city in 18 European countries, but it was the 15th most densely populated. Many large cities, and particularly the Western European ones, had densities that were a multiple of Budapest's.[36/] The move to a market oriented housing market should increase the density of the city considerably, and this increased density will not only offset the high costs of housing, it will generate a much more efficient use of resources.

Second, the cost of the observed trades of housing units in Budapest clearly do not correspond to the value of the untraded housing stock. If it did Hungary would have to be a much richer society. Mobility is very low and the trades that do take place may be very strongly affected by the lack of vacant units available in a city in which 50 percent of the housing stock is publicly owned.

34/ A.E. Holmans, House Prices, Dept. of the Environment, London. 1988 presents data on a number of European economies and cities that shows that the Budapest experience was not at all unusual by Western European standards over this time period.

35/ Data from CSO indicate that in 1988 housing cost almost two-thirds more in Budapest than in other major cities in Hungary, and more than 150 percent more than the cost in other cities. Although, as Kadas (1989) shows, the quality of housing purchased in Budapest is higher too.

36/ Source: Global Report on Human Settlements, 1986 UN Centre for Human Settlements, Oxford University Press. 1987. Table 12.

Third, the increase in the inflation rate not only raised the rate of inflation-adjusted increase in housing prices, it also eroded the real after inflation rate of return on other savings instruments.[37/] Housing became one of the better hedges against the reduction in the value of savings placed in financial assets. A reduction in inflation, and/or the increased availability of financial instruments with returns that are insulated from changes in the inflation rate, such as indexed deposits, should reduce the attractiveness of housing as a store of value, and correspondingly reduce the relative price of housing.

Finally, it should be clear that the nature of land development and housing production--either through inefficient state firms or slowly responding "kalaka," ie, the piecemeal household production process--does not lend itself to a rapid supply response to price increases. The break-up of the state monopolies and the development of a more sustainable, affordable supply of finance should go along way towards reducing these costs.

In sum, the very high price of new housing, the potentially large effects that distortions in the existing housing market have on this price, and the inefficiency of the industry that produces new housing all suggest that the primary initial focus of policy reform should be with respect to the existing housing stock rather than on new housing production. Further, if one takes into account the powerful indirect effects that the reforms of policies affecting the existing stock can have on the shortages in new housing production, as suggested by Daniel and Semjen (1987), this perspective appears even stronger.[38/]

37/ On the house price trend see Kadas; on the real return to financial instruments see Blaho.

38/ As discussed earlier they show that an increase in the rents of existing housing can reduce the shortage of new housing by very large amounts.

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ANNEXES

Subsidy Targeting: Maintaining a Safety Net While Stimulating Movement to a Market System

The subsidies to the housing sector in Hungary are enormous, with both homeowners and renters realizing major benefits. Unfortunately, the pervasive current subsidies are indiscriminately allocated among households and do not efficiently achieve their underlying objective of improving the size and quality of housing occupied by beneficiaries. Indeed, the subsidy system has introduced major price distortions causing households to demand unrealistically high housing standards; in addition, non price rationing devices are widely used to allocate housing units. Moreover, much of the budgetary support for homeownership is an inefficient substitute for more appropriate mortgage instruments and a more effective financial system.

The primary objective of this chapter is to outline ways in which selected existing subsidies can be reduced and redirected to improve efficiency and targeting. A vital consideration in suggesting redesign of the subsidy system is to ensure that the most economically vulnerable households, such as pensioners, are protected when on-going subsidies are reduced.

The chapter is organized into four sections following this introduction. The first gives an overview of the magnitude of the subsidies in the current system. The second and third address the subsidies to renters and homeowners and outline alternatives to the present system. The final section briefly notes some implications for the sector of adopting the kinds of changes suggested.

An Overview of Housing Subsidies

It is useful to divide existing subsidies between those which are recognized by Government and those which are not. The upper portion of Table 4.1 lists the subsidies conventionally recognized by Government and their magnitude for 1989 as estimated by the National Planning Organization. The total of Ft 82.1 billion represents about 4.9 percent of GDP. Among these, the subsidies closing the gap between the 3 percent mortgage loan rate and the current cost of funds for mortgages originated by OTP between 1983 and the end of 1988 account for half of the total. Overall subsidies to homeowners account for about three-fourths of all subsidies; in other words, homeowners receive subsidies approximately in proportion to their share of all households.[1/]

1/ Recently a new downpayment grant program was created which provides Ft 150,000 to young households purchasing a home. It is estimated that this will entail about Ft 3 billion in subsidies annually.

Table 1
Subsidies to the Housing Sector in 1989

A. Recognized subsidies		Amount (Ft. Billions)
1.	Construction of rental flats	6.4
2.	Maintenance of public rental flats	
	-- from state budget	8.6
	-- local council subsidies	5.5
3.	Local council subsidy for preparation of of building plots, infrastructure	7.0
4.	Socio-political allowances (assistance with downpayments)	10.0
5.	Interest rate subsidies for loans issued before 1989	41.1
6.	Subsidy for early mortgage prepayment	2.0
7.	Interest rate subsidy for loans issued in 1989 and after	1.5
	Subtotal	82.1
B. "Off budget subsidies"		
1.	Homeownership grants from employers	8.0
2.	Homeownership grants from local councils*	3.0
3.	Unmeasured rent subsidies	33.0
	Subtotal	44.0
	Total	126.1

* Includes both grants and the principal of low interest rate loans made that year. Data for valuing the interest subsidies on all outstanding loans are not available.

Source: National Planning Organization and National Bank of Hungary

Budget outlays by both the national and local governments for state rental housing (items 1 and 2 in the table) were about Ft 12 billion or 25 percent of the total.[2/]

The picture changes modestly when three additional subsidy forms are included in the tabulation, although they are officially "off budget". Employers and local councils together provide about Ft 11 billion in assistance to new homeowners; the selection process for choosing beneficiaries is not well understood. Half of employers' assistance is tax deductible, but for enterprises operating at a loss and being supported by public funds, all of the subsidy is effectively a public expenditure.

The largest omission, however, in accounting for housing sector subsidies is the foregone rental income on the housing stock, i.e., the difference between what the tenant pays and the market rent. Under the widely cited assumption that rent charged on the average state unit is about 20 percent of the market determined rent on the same unit, then the total increment in rents would be about Ft 33 billion. (These computations are described further in the next section.)

Overall, then, the subsidies to the sector in 1989 were about Ft 126 billion, or 7.5 percent of GDP. Of the total about 42 percent is associated with state rental housing, and the balance goes to homeowners.

The Rental Sector

The rental sector is heavily dominated by the approximately 800,000 state rental units, about half of which are concentrated in Budapest--the only city in which most households rent.[3/] An unknown number of private rentals do exist, however; and the number apparently has been increasing steadily since ownership of rental units was made fully legal in 1989. The private rentals consist of the normal rental of private units (although primary to foreigners, because of work eviction laws), and sublets of part or all of state rental units (although only subletting of rooms is officially sanctioned).

This section focuses on the state rental stock. The ultimate objective is for the private and public rental sectors to be fully integrated with units in both sectors being allocated through the price system. The purchasing power of low income families would be augmented through a housing allowance program. Over the next few years, rents in the sector will rise sharply to market levels

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2/ For a general description of each of the subsidies included in this part of the table see Wright 1990.

3/ J. Hegedus and I. Tosics, "The Hungarian State-Rental Sector: Its Development and Present Problems," (Budapest: Metropolitan Research Ltd., 1990), p.3.

sufficient to cover maintenance and renovations expenses and to replace the current subsidies to the sector.

The discussion begins by highlighting some features of the current situation, concluding with a list of needed changes. Then a housing allowance system for Hungary is discussed, that would protect the lowest income families while rents for stock of state rentals are gradually raised to market levels.

Highlights of the State Rental Sector

The most notable feature of the state rental sector is that tenants obtain an interest in their unit by virtue of making a "key money" payment to the government's management agency (IKV) at the time of initial occupancy. In effect, tenants obtain a "right of occupancy" to the unit, a right that can be inherited by one's children or sold in a gray market. This right is officially recognized, and local councils pay tenants vacating their units several times their initial investment to encourage them to move to other housing and to give the council the right to allocate the unit to new tenants, rather than the initial tenant selling the right to someone else.[4/] It is estimated that about 30 percent of the tenants of state rental units "purchased" their unit in the gray market.[5/]

To be more precise, the value of the gray market payment (V) is the discounted capitalized difference between the market rent on the unit (Rm) and the state-charged rent (R):

$$V = (Rm-R)/(1+r)^1 + \ldots + (Rm-R)/(1+r)^n$$

where r is the discount rate, and for simplicity we have assumed that the appreciation and inflation rates are the same. In the simplest case where R, Rm, and r are constant over time

$$Rm = V(1+r) - R.$$

Importantly, the value commanded by a unit in the gray market is reportedly only about half of the value of an equivalent unit offered for sale. This reduction is greater than can be accounted for by the deduction of the state rental payments and appears to be accounted for by (a) the inability of the purchaser to borrow from banks for a gray market purchase (and to obtain the subsidized

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4/ Councils offer from 3 to 10 times the occupant's initial payment for the right to allocate the unit, depending on the unit's location and condition. Most units returned to the council, at least in Budapest, are those in the worst condition. Most units are sold in the gray market, however. Nationally, only 0.6 percent of units are returned to the local councils annually; only 0.2 percent in Budapest (Hegedus and Tosics, " Hungarian State-Rental Sector...", p.9.

5/ Hegedus and Tosics, "Hungarian State-Rental Sector...", p.10.

loans available to many regular housing purchasers) and (b) the uncertainty about the strength of these rights in the future (which would increase the discount rate). In particular, it is clear that if the state permitted rents to rise to market levels, the value of the occupancy right would essentially disappear. In addition, because they acquired their unit through the gray market, 30 percent of the occupants of state housing are currently paying effective rents that are much higher than the nominal levels set by the state but simultaneously these costs are still less than the market value of the services they receive.

Another notable feature of the system is the standing offer to sell a unit to its current occupant, assuming a sufficient share of all tenants in a building want to become owners. As discussed earlier in the paper, if the policy of selling off the rental stock were fully successful, an adverse implication would be the loss of most rental housing which would limit mobility and make establishing independent households more difficult.

The poor condition of many state rental units is another hallmark of the system. Until the early 1980s the state budget did not provide assistance in addition to the low rents for maintaining units in the state rental sector.[6/] The result was a systematic depreciation of the housing stock. One current estimate indicates that in Budapest alone there are 105,000 units in need of substantial renovation, with an expected costs of Ft 140 to 160 billion.[7/] While revenues from rents and state maintenance subsidies have increased significantly in recent years, it is not clear that even these larger revenues have been used to fully maintain the stock, since the local management agents are given substantial latitude in allocating revenues between maintenance and renovations.

The final feature of rental housing deserving comment is the limited targeting of this highly subsidized stock on low income families. Here two of several available indicators of the distribution of units and subsidies are presented. First, Table 2 shows the distribution of households by occupation categories between renters and owners and, for renters, the percentage of each occupation group living in an exceptionally large unit. The data show those with the highest prestige occupations--managers, intellectuals and white collar workers--are disproportionately renters, a fact that may be related to the combination of the importance of the rental stock and the concentration of officials in Budapest. Moreover, it is this same group along with shop floor managers and the self-employed that have succeeded in occupying the largest units.[8/]

6/ Hegedus and Tosics, "Hungarian State-Rental Sector...", pp. 13-14.

7/ J. Hegedus and I. Tosics, "Summary of the Conference on 'Alternatives for the Public Rental Sector'," (Budapest: Metropolitan Research Ltd, 1990), p.3.

8/ Additional supporting evidence on these patterns was developed by V. Milor. The information presented indicates that blue collar workers systematically live in units with fewer amenities, as well as being smaller.

Table 2
Occupation of Head of Household in State Rental and Owner-Occupancy Sectors

	Rental Sector	Home Sector	Among Renters % With 3+ Rooms
Managers, intellectuals	6.1	4.9	15.0
White collar worker	14.8	9.2	10.8
Shop-floor managers	1.7	2.0	5.0
Skilled worker	17.5	21.4	4.6
Semi-skilled worker	8.2	9.6	4.0
Unskilled worker	4.1	3.9	4.5
Agricultural workers	.4	5.6	-
Self employed	1.3	2.7	11.2
Retired	39.1	32.8	5.1
Dependent	2.3	1.8	2.9
Vacant units	4.3	6.3	2.9
Totals	100	100	6.3

Source: Hegedus and Tosics, "Hungarian State-Rental Sector...", Table 8, p. 17.

Second is the information available from the study of the incidence of subsidies by income and household group prepared in 1989 by the Hungarian Central Statistics Office. Selected data from this study for rental subsidies are presented in Table 3. These figures are for all households in each of the income groups shown, not only for renters. (Separate tabulations for owners and renters cannot be prepared with the data set developed for the study.) The suggestive information available indicates that the homeownership rate is remarkably constant over the income distribution. To the extent this is the case, then the figures can be interpreted as per renter household data, as well as more aggregate indicators of the distribution of subsidies.

The table shows the level of subsidies at four points in the income distribution, avoiding the extremes of the distribution where measurement errors may have the greatest effects on the results. Rent subsidies are the state (not local council) maintenance subsidies reported in Table 1.[9/] The figures for rent subsidies reveal that in absolute terms higher income groups are greater beneficiaries in terms of absolute annual subsidies. Whereas the average

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9/ Capital subsidies, i.e., the cost of building new units, and real rent reductions, i.e., the difference between market and actual rents are not included in these figures.

household in the 11-15 percentile group receives Ft 2,077 in annual subsidies, his counterpart in the 86-90 group receives 61 percent more. When subsidies are expressed as a percentage of income (panel B), the percentages fall only slightly as income rises. Data on housing-related utilities indicate a broadly similar distribution of subsidies in this area as well.

This pattern is certainly contrary to one in which a social program is designed to assist primarily households at lower income levels. The majority of the subsidies go to higher income households; indeed over half of total rental subsidies go to households in the upper 30 percent of the income distribution.

That the targeting should be so poor is understandable in light of the previous use of state housing as a key part of the non-wage compressotor of higher valued workers. Moreover, although there is supposed to be an income test for initial occupancy of a state rental unit, even if this were rigorously applied, there is no subsequent income recertification.[10/]

Nevertheless, as indicated at the beginning of this section, rents must be raised to support essential maintenance and renovation, to allocate units efficiently, and to provide an incentive for the development of private rental housing to serve a wide spectrum of households. Clearly numerous issues will be involved in such a transformation of state rental housing. The balance of this section focuses on the role housing allowances have to play in such a transformation.

Housing Allowances in Hungary

Housing allowances are payments provided directly to households that are to be used by the household in renting a unit. Participation in an allowance program is conditional upon the household having a low income; hence allowances provide protection to the most vulnerable households from the rising rents which are integral to transforming the state rental sector.

A household participating in an allowance program is at liberty to choose any unit it wishes. If it decides to move to another unit, the payments go with the household, i.e., these are tenant-based, not project-based subsidies. Because they are tenant-based, it means that participants induce landlords into competing for their patronage: if families will not rent a landlord's units, they go vacant. This kind of competition will be essential over the medium-term in helping transform the state rental sector in Hungary.

Housing allowances are a widely used subsidy tool. Many European nations, the United States, and several Canadian Provinces employ allowances.[11/]

10/ The rules for setting rents are summarized in Annex A.

11/ For a description of these various systems, see E. Jay Howenstein, Housing Vouchers: A comparative International Analysis (New Brunswick, NJ: Rutgers University, Center for Urban Policy Research, 1986).

Table 3: Incidence of Selected Housing-Related Subsidies at Selected Points in the Income Distribution: 1989

	income percentiles			
	11-15	21-30	71-80	86-90
A. annual subsidies in Forints				
Rents	2077	2035	2372	3353
Fuel*	6758	5683	5250	6515
Water and sewer	543	532	559	877
Total	9378	8250	8181	10745
B. annual subsidies as a percent of income				
Rents	1.15	1.01	.82	1.05
Fuel	3.75	2.83	2.02	2.10
Water and sewer	.30	.87	.66	.44
Total	5.20	4.71	3.50	3.59

* For both renters and homeowners.

Source: "Incidence Analysis" The Impact of Consumer and Housing Subsidies on Housing Income Distribution." (Budapest: Central Statistics Office, 1989), Annex pages 40 and 42.

The Federal Republic of Germany has an entitlement housing allowance program funded by the federal government which is available to both renters and homeowners. The Federal Republic plans to implement a similar allowance program in East Germany as the two countries become integrated.

Hungary instituted a simple housing allowance program at the beginning of 1990 to insulate certain households from rent increases. Under this program pensioners and households with at least three children and monthly incomes of under Ft 4,300 per capita were fully exempt from the rent increases implemented in January.[12/] Households have to apply to the local council to participate. Although systematic data on participation are not available, a large number of tenants have applied. The state makes payments to the company managing a participant's project so that the company's revenues are not reduced. In short, housing allowances are a tool widely used in Europe and familiar to Hungarian policy makers.

12/ There was also a high monthly income limit of Ft 13,000 for pensioners.

The presentation of a prototypical housing allowance program for Hungary proceeds in three parts. First the allowance program is sketched in general. Then some illustrative calculations of one possible program are given. Finally, some ideas about the transition from the present system to a full housing allowance system are presented. It is emphasized at the outset that this discussion is intended to stimulate further discussion. Serious consideration of a more comprehensive allowance program by the Government of Hungary would doubtlessly entail examination of a range of different designs.

General description. The key questions addressed here are: who could participate in the program, and how would their subsidy be calculated? Eligibility would be determined by the household's income. At least initially the program would be limited to renter households; those renting private accommodations as well as tenants of state rentals would be eligible. Private renters include subletters of state rental units. The eligibility of those renting in the private and state "markets" is essential for fostering competition.

Under a fairly standard "gap formula", i.e., subsidy payments are designed to fill the gap between what a household can reasonably pay and the cost of an adequate unit. The monthly subsidy payment (S) is computed as

$$S = MSR - tY, \quad \text{where}$$

MSR is the "Maximum Social Rent," i.e., the rent sufficient to rent a good quality unit in the market. In the Hungarian context, it could be the rent for a unit classified as having "comfort", i.e., of minimum size and having a toilet, bathroom but not central heating. The MSR varies by the number of rooms to which the participant household is entitled based on the household's size. MSRs are set separately for different cities; at least differentiation between Budapest and other urban areas appears necessary. The MSR does not vary within a city, however. MSR can be defined to include housing-associated utility payments, and in Hungary they probably should.

Participants are permitted to rent units for more than the applicable MSR; however, they pay all rent above the MSR.

t is the share of income a household can reasonably be expected to spend on housing. Based on the experience of other countries, values of .20 to .30 (the latter including utilities) are typical for middle income households.[13/]

13/ S. Malpezzi, S. K. Mayo and D. Gross, "Housing Demand in Developing Countries," (Washington, DC: World Bank Staff Working Paper Number 733, 1985).

Y is the household's monthly income from all sources. It should include first and second economy incomes.[14/] Incomes should be recertified annually.

Subsidy payments equal the MSR when the household has no income, and subsidies decline as income rise. The "tax rate" on additional income (t) is fairly low and thus should not be a strong disincentive for reporting additional income or to incremental work effort. This phasing out of subsidies (S = 0 at Y = MSR/t) is a definite improvement over the current Hungarian housing allowance program in which a household receives all or none of the subsidies depending only on whether its income is above or below the income cutoff.

It is especially important in the Hungarian context to distinguish among the subsidy payments in three initial housing situations. To explain these cases, two additional variables need to be defined: R is the actual rent for a unit, and RP is the rental payment net of subsidy made by the program participant.

Case 1: R = MSR and RP = tY. The participant selects a unit renting for exactly the MSR and pays exactly tY for it.

Case 2: R < MSR and RP = tY - (MSR - R). This situation illustrates the case, for example, of a pensioner living in a "half comfort" unit or a family in a unit smaller than the one to which it is entitled, which rents considerably below the applicable MSR. In this instance, the participant pays less than the standard share of income for rent. In essence, society realizes that this person is living in substandard housing and should not be expected to pay a normal share of income for the unit.

Case 3: R > MSR and RP = tY + (R - MSR). In this case a family may occupy a well-located unit that is larger than that for which it qualifies. For example, the family is entitled to a single room unit but occupies

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14/ There is reasonable concern about the ability to measure incomes accurately, either for program eligibility or in determining rental payments. In many industrialized countries this has not proven an insurmountable problem, although all countries recognize the problem of income underreporting and take steps to minimize it. In Hungary, the presence of second economy incomes is the obvious problem. In considering errors from this source it is essential to focus on households living in urban areas with income in the lower one-third to one-half of the income distribution and on the amount and as well as the incidence of second economy incomes to these households. Officials interviewed at the Central Statistics Office thought that the importance of second economy incomes would be lower for this group than for other households and that careful questioning about income sources could help minimize the problem. Nevertheless, this is an issue that deserves further attention.

three rooms.[15/] This family pays all of the rent above the MSR and more than the standard share of income for housing. This is the household's choice. (As discussed below, transition rules will be needed for households finding themselves in this situation at the time the combination of rent increases and housing allowances are implemented.[16/])

The main point of these three cases is that housing allowances offer a method of protecting the lowest income families, while embodying sufficient flexibility to influence those assisted to make their housing choices based on actual market rents.

A Numeric Example of Housing Allowances in Hungary. This section sets out cost estimates for a particular design of an allowance scheme for Hungary. The following are the key design parameters.

Eligible Households. Households in the lowest 35 percent of the income distribution are eligible to participate. This corresponds to a 1989 monthly household income of Ft 17,000.[17/] The average monthly income for those in this group is Ft 15,100. For reference, the monthly subsistence income for renters with the average household of 2.5 is Ft 8,345; the social minimum income for the same household is Ft 10,240. For a family of four the corresponding figures are Ft 13,039 and Ft 16,000.
In short, defining eligibility in this way comfortably includes those generally defined to be in the poverty population in Hungary.[18/] The income

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15/ The number of rooms is defined exclusive of the bathroom and kitchen.

16/ As a numerical example of the foregoing, consider the case in which ty = 1,000 and MSR = 800, then

R	|MSR - R|	RP
400	400	600
1,200	400	1,400

17/ This is based on the income distribution for owners and renters combined. Income distribution data by tenure has been requested from the Central Statistics Office. The income figures were derived from information in the "incidence study".

18/ It is important to note that the Hungarian practice of defining poverty thresholds on the basis of per capita incomes, with each additional family member being defined to require the same income as previous members, is sharply at variance with international practice. Among widely accepted adjustments for family size, the upper limit of the elasticity of poverty threshold with respect to family size is about .7; the lower limit about .25. By contrast, in Hungary it is 1.0. Of course, it is possible that the one person threshold has been underestimated in Hungary. For further discussion, see P. Ruggles,

eligibility cutoff would be adjusted for household size, something not done in this calculation since only the "average household" is considered.

Household Rental Contribution. To permit some sensitivity analysis, "t" has been set at .20 and .27. These payments would cover both contract rent and utilities, i.e., gross rents. Utilities payments currently account for about 6.2 percent of incomes of eligible households.[19] For the average household, these values of "t" imply monthly payments of Ft 3,020 and Ft 4,077, respectively.

Maximum Social Rent. The base MSR has been defined as the rent for the average unit with "comfort" plus an allowance for utilities. The average unit is 52 square meters and rents in 1990 for units with "average comfort" are 16 Ft/sq.m./month, or Ft 832/month. The utility allowance has been set at current utility expenditures plus one-half of the remaining utilities' subsidies received by households as shown in the "incidence study", assuming that these will be reduced to this level in the near term.

Market Rents. A widely-quoted value in Budapest is that market rents are five times greater than state rental rates. Values of four and five times current rents (exclusive of utilities) have been used.[20] In these calculations it is assumed that the MSR is set at the market rent level, i.e., the MSR is set so as to equal the average rent for a unit with "comfort" in each market.

Participation. An 85 percent participation rate among the 35 percent of state rental unit occupants has been assumed. This is much larger than participation rates in other countries, including Germany. A value of under 100 percent is used, since some eligible households with incomes near the cutoff will receive small payments and will not bother to apply. In addition to participants who live in state rental units, 12,000 renters

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Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy (Washington, DC: The Urban Institute Press, 1990), Chapter 4.

Also note that in a number of countries, including the United States, an additional requirement for participation is that the unit occupied meet some minimum quality standard. Imposing this condition appears unrealistic, given the current condition of the state rental stock.

19/ "Incidence Analysis...", Annex, p. f/32.

20/ Using data from brokers who are handling rental contracts on private and even some state rental units, it should be possible to determine the level of current market rents for a given housing quality level, although the units offered through brokers are concentrated in the higher quality levels.

of private units are assumed to participate for a total of 250,000 households.

Using these parameters the average monthly and annual benefit levels and total annual costs for several programs have been computed (Table 4). These calculations are for the average household among the eligible households, and market rents are assumed to equal the MSR.

As an example, consider the entries in the final row of the table. If rents increase by five times to reach their market level and recipients contribute 20 percent of their incomes to rents and related utility payments, the average housing allowance recipient would receive a monthly allowance payment of Ft 2,340, equivalent to about 15 percent of its income. Aggregated over all participants, the government would spend about Ft 7 billion on housing allowance subsidies. For reference, this compares with national government spending of Ft 8.6 billion in 1989 on maintenance for state rental units (local councils spent an additional Ft 5.5 billion). As one would expect, subsidies are sharply lower when participants are required to contribute 27 percent of their income for rent and utility payments.

Table 4: Illustrative Benefit Levels and Total Costs of a Housing Allowance Program in Hungary

# of times market rents are above current state rents	MSR (Ft)	S/mo. (Ft)	S/year (Ft)	aggregate annual subsidy (Ft billion)
		A. t = .27		
4	4,456	469	5,628	1.4
5	5,370	1,293	15,516	3.9
		B. t = .20		
4	4,456	1,516	18,192	4.6
5	5,370	2,340	28,080	7.0

An important question is how the revenues of those managing rental units would be affected by the program. The following tabulation shows the incremental revenues by source, under the same program as discussed in the previous paragraph:

recipient rent payments	Ft 2.7 billion
non recipient rent payments	22.4
housing allowances	7.0
	Ft32.1 billion

Participants in the housing allowance program pay more as, on average, they reach the required spending level (t=.20). The major source of additional revenues, however, is greater rental payments by non-participants. Overall there is a very large increase in revenues, and it should be sufficient to cover all maintenance and renovation expenditures. Critically, the availability of bank financing should be assured so that the augmented rental streams can be used to support the renovation of deficient properties--in part so that tenants begin seeing the benefits associated with higher rents. With an increase of this order of magnitude, government support for the rental sector besides housing allowances should be discontinued.

It is worth stressing that these calculations are for the "average" eligible household, who would pay 20 percent of its incomes for rent. Clearly, results of the great interest concern how households in different circumstances--family size, whether or not in labor force, and income group--are treated in such a scheme. Such calculations require use of a micro data set which has not been available to date.[21/]

The Transition. A housing allowance program might be introduced in three distinct steps.

Step 1: Phased across-the-board rent increases, possibly raising rents by 200 to 250 percent from their present levels. During this step, allowance participants pay

$$\min (R, t_i Y)$$

for rent, i.e., it pays the lesser of the actual rent on the unit or t percent of its income. The subscript i has been added to the parameter t to indicate that t might be raised as the overall rent levels go up, although this may be an unnecessary complication. Limiting the across-the-board increases to 200 percent or so is suggested so that these adjustments do not "over shoot" the market rents on low quality and poorly located units.

Step 2: Rents are permitted to seek their market levels. The private companies now managing the state rent housing stock will have a clear profit incentive to increase rents. The housing allowance

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21/ Such simulations could also be used to address important design issues not mentioned in the text. For example, it is desirable for subsidies to phase out at about the income eligibility limit in order to minimize the overlap between recipients and non-recipients. (A household who is income eligible for the program could continue to receive payments until his income increased enough to eliminate his subsidy, even though at this income level he would not be eligible to begin participating.) In the program just reviewed, S=0 at Ft 26,850--indicating a large potential overlap between recipients and non-recipients.

program as outlined above is in effect with the exception of those households for whom R > MSR. For these households

$$RP = tY + a(R-MSR), \quad \text{where } a < 1,$$

that is, for those participant households who have been overhoused under the old system, the full burden of the rent increase is phased in, giving them time to relocate to another unit. One plan would set a=.2 initially and raise it by .2 every six months.

Step 3: full housing allowance system in operation.

Reform of the management of state housing should occur at the same time that the across-the-board rent increases are being implemented, i.e., during Step 1. In addition, during the transition and for a few years thereafter Government should refrain from assisting in the development of additional rental housing. With higher rents charged by the state sector, private investors may well be encouraged to enter the market, providing either existing units or new units for rent.

In summary, housing allowances, combined with increasing the rents in state rental housing to market levels, holds the promise of permitting very substantial reductions in subsidies--about Ft 20 billion, according to the figures in Table 4.1--while at the same time protecting the lowest income households from undue hardship. Importantly, the overall program outlined would bring market discipline to bear on the offering and management of housing in the rental sector.

The Homeownership Sector

As noted in the first section, subsidies to those purchasing their homes have accounted for the lion's share of subsidies during the 1980s. This discussion of these subsidies and possible reforms is more abbreviated than the discussion of the rental sector, because of the close relationship between reform in housing finance and its attendant impacts on housing affordability and changes in subsidies. The section consists of two parts, the first discusses the targeting of subsidies for homeownership and the second lays out some principles for altering the existing subsidies.

Subsidy Targeting

The first point is that, since the program was enacted in 1983, the targeting of homeownership subsidies on lower income families has been weak. Table 5 shows the incidence of subsidies associated with loans made by OTP during the 1983-88 period. These data are from the same study used in the section on rental housing and the same caveats apply.

The interest rate subsidy is calculated as the difference between the 3 percent loan rate and government's current cost of funds. The "social allowance" is an up-front grant to the household to reduce the size of the loan to be taken.

Neither subsidy was income conditioned, although the social allowance increased with the number of children. These data do not include the subsidies embodied in grants or loans made by employers or local councils.

The figures in the tableshow that the mortgage interest subsidies are positively distributed with income. On the other hand, the social allowances are more tightly concentrated on lower income families: mortgage interest subsidies received by households in the 86-90th income percentiles of the income distribution are 1.6 times those received by households in the 11-15th percentiles; the comparable ratio for the social allowance subsidies is .26. Hence the two patterns offset each other significantly, so that overall subsidies vary moderately over the income distribution. Still, the program cannot be considered one that targeted assistance on lower income families.

At the beginning of 1989 a major overhaul of mortgage lending was introduced. While mortgage interest rates were moved to market-approximating levels, a series of subsidies were introduced to preserve the affordability of homeownership to many households. Some restrictions on who could have access to the subsidy system were introduced. The highlights of the system, as revised, are as follows.

Table 5: Incidence of Subsidies for Homeownership for Selected Income Groups, 1989

	Household income percentiles			
	11-15	21-30	71-80	86-90
A. annual subsidies (forints)				
Mortgage interest	9811	11682	12217	15705
Social allowance	6347	3529	2070	1677
Total	16158	15211	14287	17382
B. subsidies as a percent of income				
Mortgage interest	5.44	5.41	4.70	4.93
Social allowance	3.52	1.75	1.01	.53
Total	8.96	7.16	5.71	5.46

Restricted access. Generally, only households purchasing new units have access to the subsidies. However, if an owner sells his unit to OTP at a set price to buy another (OTP will resell it at a below market price), the initial owner has access to subsidized finance as does the purchaser

of the unit from OTP. However, OTP attempts to minimize financing on the resale unit by selling it to the household who offers to make the largest downpayment.

Social allowances. These downpayment grants remain in force and continue to vary only with household size. However, there is some restriction on the size of unit which can be purchased, which also varies with household size. In addition to these, new "junior subsidies of Ft 150,000 became effective in 1990 for young couples purchasing their first home.[22/]

Interest rate subsidies. Households can use two different sets of interest rate subsidies. The two subsidies apply to different parts of the mortgage principal; the deeper subsidy applies only to Ft 300,000 to 500,000 of the principal and varies with household size. Both have an increase in interest rates after five years, but neither reaches market rates for the first 15 years of the mortgage term.[23/] There is no overall limit on the loan amount, except the requirement that loan repayments not exceed one-third of the borrower's income. Thus, these are in effect price subsidies, encouraging borrowers to consume the greatest possible amount of housing. The present values of these subsidies for a typical house purchase are shown in Table 4.6.

The data in Table 6 are based on the purchase of a Ft 2 million home, with a 25 year mortgage. The household makes a 30 percent downpayment and receives on the order of another 15 percent of the downpayment in grants. The value of

Table 6: Subsidies in Current OTP Lending for Homeownership

No. of Children	Social Allowance	Present Value of Interest Subsides as a Percent of	
		House Value	Loan Amount
1	Ft 50,000	15.3	27.8
2	150,000	18.7	34.0
3	400,000	21.3	38.7

Source: L. Chiquier, "Mortgage Designing in Hungary: Critical Presentations and Comparisons of Present Housing Credit and the Dual-Index-Mortgage Instrument." (Washington, DC: The World Bank, 1990), pp. 3-18.

22/ These subsidies are anticipated to cost Ft 3 billion per year.

23/ For a more complete description of these programs, see David Parry, "Hungary's Changing Housing Finance System," Housing Finance International, November 1989, pp. 4-13.

subsidies involved in these transactions is large, although certainly smaller than on the previous 3 percent loans. For example, a family with two children receives grants and interest subsidies worth over 40 percent of the house value. Larger households regardless of income clearly receive larger subsidies. However, there is no reason to believe that they are better targeted to lower income families than their predecessors.

Principles for Targeting Homeownership Subsidies

While loans originated by OTP will likely continue to account for the largest volume of subsidies in the aggregate, the subsidies being distributed to homeowners by local councils and employers are large sources of subsidies as well. This section briefly lays out some principles for future subsidies, if any, from all three sources.

Employer homeownership subsidies. Companies are now a major source of assistance to their employees who want to become homeowners. In 1989 these subsidies were equivalent to 80 percent of the "social allowances" for home purchase granted by the state. These subsidies should be discontinued.

Companies can deduct from their taxes half of the value of homeowner assistance grants to employees. To obtain this advantage the companies do not have to satisfy any rules about to whom the funds are distributed.[24/] In practice the state may be covering considerably more than half of these expenses. For SOEs in financial trouble who continue to face a "soft budget constraint" the cost is being absorbed in the first instance by the banking system in the form of bad loans; and ultimately the state will pay. There are good reasons, however, to object to even healthy companies making such grants. Many companies in Hungary are currently effective monopolists. Under these conditions they are price setters; consumers pay for the housing grants, when under more competitive conditions they would not. At least until real competition exists, such grants should be prohibited.

Municipal homeownership subsidies. With the devolution of powers to local governments about to happen, it will be difficult for the national government to have a strong voice in setting local governments' spending priorities. Appropriately, a local government should spend funds on the purposes its citizens prefer. On the other hand, there will be a legitimate function for central government in making certain that homeownership subsidies are not distributed on the basis of favoritism. The Hungarians should work out the exact modality for overseeing these and other expenditures. Requiring that rules clearly define who is eligible to receive funds and that proper records are kept on grants are reasonable actions. Pressing for the publication in the local newspaper of the

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24/ In fact, however, regulations require that these grants be administered by OTP. Therefore, they are only available to families who are obtaining financing, almost always subsidized, from OTP.

names and other relevant information of those receiving assistance might be in order as well. In addition, some sort of regular audit function will be needed.

National policies to encourage homeownership. There are three principles that should be followed in redesigning assistance to homeowners.

(a) To address the affordability problem rely primarily on the redesign of the mortgage instrument. The dual index mortgage can effectively transform the pattern of loan repayments to increase the size of loan that can be supported. This should permit a very substantial reduction in subsidies to the sector.

(b) Whatever subsidies remain, they should be much more explicitly targeted by household income (and preferably not use family size or an indicator of income) and should not be a simple price subsidy that encourages additional housing consumption.

(c) The preferred form of these subsidies will be up-front grants because of their transparency and the problems encountered in the past with "deferred" interest subsidies.

(d) The magnitude of the increase in subsidy size with household size should be reconsidered. The schedule for these subsidies--both the social allowances and interest rate subsidies--shows subsidy increases far beyond what would be necessary for the incremental cost (in percentage terms) of providing additional space for a larger family. Government should be certain that it wishes homeownership policy to play such an encouraging role in promoting fertility.

The actions outlined in this section constitute a fundamental realignment of homeownership assistance in Hungary, one in which financial instruments and markets do more of the work and government's responsibilities are proportionately diminished and targeted on those with the need for assistance.

Implications

The type of support system outlined in the foregoing sections has pervasive implications for urban housing markets in Hungary. In particular, several changes appear likely to occur.

(a) There will be a surge in renovation of state rental properties as revenue streams increase. Importantly, the greater revenue streams can be used as the basis for obtaining bank loans to accelerate the timing of renovation.

(b) The "gray market" for rental units will ultimately disappear, since there will no longer be a subsidy stream to capitalize.

(c) In response to higher rents and homeownership costs, smaller units will be demanded and units in the existing stock will be realligued to respond to these demands and market signals.

(d) In the resale market, the price of larger, better equipped homes will fall, again in response to demand levels that will likely be reduced somewhat by the withdrawal of subsidies.

(e) Over time the construction industry should become more efficient and the price of building materials should decline as the impacts of competition take hold. This should result in a significant decline in housing prices and help offset the impacts of reduced subsidy levels.

The Efficient Use of the State-Owned Housing Stock in Hungary

Introduction

This section examines how the state-owned housing stock can be transformed from the budget liability it is currently to an efficiently deployed national asset. Moreover, it does so within the contexts of both the current process of decentralizing government power and concern over sharp increases in housing costs. The proposal also meshes with the development of improved financing and subsidy programs discussed elsewhere in this report.

The housing sector in Hungary actually has a headstart on the rest of the economy in being put on a market basis, because only about 20 percent of the housing units are state-owned. However, the total market value of the state-owned stock, including site-value, is probably over 800 billion forints, and it is currently providing a flow of implicit and explicit subsidies to the tenants of over 3 percent of GDP. Increased efficiency in the use of this valuable asset should be viewed as a priority in the restructuring of Hungary's economy.

In addition to the high value of the state housing stock, there are several other reasons to focus on this issue. First, the distribution of the deep subsidies conveyed through tenancy in the state-owned units must be rationalized as part of the conversion to "market" wages, accompanied by an explicit social safety net. Second, it is useful for the restructuring of the rest of the economy to have a true rental market to facilitate mobility within Hungary. Third, it is likely that ownership of state housing will be transferred to local self-governing units, thus enmeshing housing policy with the evolving framework of inter-governmental relations. Fourth, most of the housing stock in Budapest is owned by the state, and the future course of development of the capital city is closely related its use. Finally, management of the state-owned stock is performed by a state monopoly with a widespread reputation for inefficiency.

Goals for Reforming the State Rental Sector

Before developing the analysis further, it may be useful to state explicitly the goals or principles guiding the discussion. The overriding goal is that the state-owned housing stock be used more efficiently in the future. Efficient use requires it be allocated to its most valuable use and that it be managed and maintained in an efficient manner. In general, totally efficient use can only be achieved through market-based pricing (other conditions must hold as well), but the closer prices are to market levels, the greater the efficiency. Subsidies can be provided for social equity, as long as they are given to the household and not tied to the unit instead. To attain efficient use, the housing need not necessarily be privatized, as long as the management is private and market-based.

Another major goal of policy towards the state rental sector is that it encourage the creation of a true rental housing market. The essence of such a

market is that the rights and responsibilities of ownership are separated from those of occupancy. Occupants have no rights of ownership, and thus have no encumbrances on their ready departure from the unit. Similarly, owners have minimal encumbrances on their shifting the use of the asset as market considerations change. This arrangement encourages efficient reallocation of labor within Hungary and redeployment of land and structures as needs change. It also takes advantage of the fact that, while some parts of the population have the capital needed to own and operate housing (i.e., the landlords, including the government), other parts, particularly young and lower-income households, do not have access to the needed capital, and thus should more logically be renters.

A related goal is that all government housing subsidies be tied to the characteristics of the household, e.g., family income, rather than to the housing unit. Only then can the size of the subsidy be based on social policy goals and can the subsidized household be free to choose the location and unit type best for it.

Another distinct goal is that the land and structures in central Budapest be efficiently utilized to meet increased demands for office and commercial space and the upsurge in touristic interest. Extensive renovation, restoration and changes in property use will be needed if Budapest is to regain its role as a major commercial and touristic destination.

Yet another goal is that, whatever the ownership of the housing, the management should be private (including tenant-based arrangements), and all maintenance and renovation activities be contracted out on a competitive basis.

These goals do not require complete dependence on private landlords. Tenant cooperatives and other forms of housing associations can have a major role. However, some of these alternatives reduce the separation of ownership and occupancy and thus contribute less to ease of mobility in the rental sector. Public housing can also exist, but the subsidy element should vary based on the income and other characteristics of the household, and the housing should be privately managed.

These goals do require that the government, whether national or local, not restrict the private rental sector by either regulating rents or placing significant limitations on the ability of owners to limit the length of tenancies or evict tenants for cause.

Few countries follow these principles entirely. Many have extensive unit-based subsidy systems (e.g., the usual public housing projects), or have over-regulated the private rental market through such mechanisms as rent controls. However, the uniform thrust of housing policy development in most Western countries for the past twenty years has been to move away from such approaches. There does not appear to be any reason why Hungary must make the same mistakes on the road to a well-functioning housing market.

Current Rental Sector in Hungary

State-owned rental housing in Hungary currently fails to meet any of the goals and norms discussed above. Rents are much lower than market levels. Subsidies are tied to units and unit allocation policies are only loosely tied to social need (but more so recently than in the past, when the subsidy was considered part of the overall work compensation). Subsidies do not vary over time as the income or other characteristics of the household change. Tenants can be evicted only with great difficulty, and tenancies can be inherited. Rents are regulated by the government and can be changed only at a great political cost. Management is provided by a state monopoly with relatively little incentive for efficiency.

This system has led to chronic shortages of housing and great difficulty for new households to obtain a housing unit. The locational choices of households in the larger cities is very restricted and possibly quite suboptimal. In fact, much extra effort is expended to work around the system to obtain appropriate housing.

These arrangements also leave Hungary without a functioning rental market. To some extent, the housing market can be characterized as 100 percent private ownership, since the "renters" of the state stock have the ability to sell their unit (and its accompanying subsidy) to another household. Thus rapid access to housing of any kind requires accumulated savings or other access to cash. This is the key reason for the frequently noted situation that young families have no access to housing. All housing other than state housing being reallocated by the local council requires a large up-front payment. If market rents were charged, the gray market value of units would disappear, turnover would increase, and no large up-front payment would keep young households out of the market.

Another problem with the current arrangements is the fragmentation of control over the units. While the central government owns the housing, nearly all control other than rent setting is exercised by local governments. However, the control by local governments is severely limited by the great difficulty of evicting tenants and by the monopoly that the state property management companies, the IKV's, have on providing management services. Efforts are being made to hold IKV's as accountable as possible and to allocate units on a strict social need basis, but the results are a poor second best in comparison with a more flexible system.

There are signs of a nascent private rental market, especially since, as of 1989, private persons were permitted to own more than one house. However, this market is primarily limited to households who already have a home elsewhere, e.g. foreigners or Hungarians on temporary assignment, because landlords are reluctant to rent units in other situations because of the great difficulty of evicting tenants at the end of their lease. The private rental market needs to be freed up more not only to meet the need for rental housing options, but also to yield information of what "market" rent levels might be in order to guide the pricing of the state-owned stock.

Reshaping the Rental Sector

How can the Hungarian rental sector be turned into a greater contributor to economic and social well-being? There are a number of ways such a goal can be reached, including rapid and highly-subsidized privatization. However, there are some important political and economic considerations that sharply limit the alternatives. First, there is strong momentum towards the transfer of ownership of the state stock to local governments. This is partly motivated by the desire to remove maintenance of the stock as a burden on the central government's budget. Second, much of the stock is in Budapest, is in relatively bad condition, and in some cases should be converted to non-residential uses. Third, it is unfair to grant sitting tenants the property rights to the units they are currently occupying, both because many gained those units through the "corrupt" allocation processes of the past and because the grant of nearly free use of the unit in the past was predicated on being paid an artificially low wage. An increasing number of tenants have access to second economy wages and more will in the future. It does not seem appropriate to permit them to obtain the future value of their housing subsidy as well.

A further consideration is that there are many other changes occurring in Hungary, largely by central government fiat and in an environment of deep-seated mistrust of any central government. It may be desirable to achieve the goals set forth here through the local governments and more by incentives to the various participants than by order. In addition, the move to a new system should be coordinated with other changes in the housing sector, including a shift towards tenant-based subsidies.

The proposal here builds on all of these trends and is designed to set in motion forces oriented towards creation of a functioning rental market in Hungary. The proposal can be summarized in schematic form as follows.

I. Initial Steps:

A. End the sale of state-owned units at less than market price;
B. Transfer ownership of state stock to the new local governments, with the proviso that any disposition be at full market price.

II. Prepare a Rental Housing Law Which:

A. Initiates a housing allowance program;

B. Prohibits local governments from controlling private rents;

C. Permits rapid eviction for non-payment and end-of-lease;

D. Provides for specific relocation benefits for tenants when there is renovation or a change in the use of government-owned units.

E. Provides access to the housing allowance program for a local government's housing only if:

a) the local government charges market rents for all its housing units;

b) the local government requires competitive bidding for management services;

c) the local government permits a central government branch to audit its operations for conformance to these requirements.

F. Amends the Income Tax Law to "tax" profits from government-owned housing, and treat as taxable income any grants or interest-subsidies paid by employers.

III. Prepare a law for the redevelopment of central Budapest which:

A. Provides for relocation of tenants and the sale and redevelopment of government properties;

B. Formalizes architectural controls on new development;

C. Liberalizes leasing of properties and land by foreigners;

D. Provides funds for accelerated renovation of facades.

The next section develops this package of recommendations at greater length. The last section discusses the interrelations between the elements in the package and how their enactment could proceed along different time-tables.

The Specifics of Reform

Market Price for Sales

The first element of any meaningful reform package should be the elimination of below-market sales of rental units to current tenants. This is because tenants can destroy the effectiveness of any other reforms through exercise of their purchase options under current regulations. The outcome would be the total privatization of the state-owned stock on a give-away basis (sale at 15 to 60 percent of value, 10 percent down, 3 percent interest on the remainder). Such an outcome has its attractions, including rapid elimination of the maintenance and renovation burden and the avoidance of more politically difficult steps, such as raising rents. However, as noted above, such a give-away raises issues of fairness and reduces the potential for turning the state-owned stock into the core of a true rental market.

The simplest approach would be to abruptly end sales at less than market value for all units not in the process of being sold as of that date (or a somewhat earlier date to cover last-minute filings due to the leakage of the proposed change in rules). Similarly, all government finance would end. However, the units would be eligible for other financing subsidies which are available for owner-occupied housing.

This step may not be as important as it appears, since several persons interviewed indicated that most of the attractive units have already been sold in the last several years. However, as it becomes clear that rental subsidies are going to be rationalized soon, the pressure to buy will grow among remaining tenants and they will become more creative in securing funds to "buy-out" their subsidy rather than see it jeopardized. It is possible that sales could be deterred sufficiently, simply by eliminating the subsidized financing currently available for such purchases. But there are advantages to also reinforcing the principle that public assets in Hungary should be sold at their market value.

A counter-argument to requiring full market price is that tenants already enjoy the ability to "sell" their occupancy rights and thus have partial ownership currently. Some have actually paid for that right on the gray market from an earlier tenant, and to charge them the full market value of the unit would constitute double payment. This argument loses some of its force if a housing allowance is enacted to preserve a subsidy for the truly needy. Moreover, if wage policies are changed to incorporate housing expenditures and only those persons seen as "in need" receive subsidies, then granting all tenants the capitalized value of the subsidies conveyed under the old system is inappropriate. In any case, the presence of a 50% discount on prices in the gray market indicates that all parties recognize the risks involved, including the risk of the withdrawal of subsidies.

Transferring Ownership to Local Governments

Transfer of ownership to local governments seems to be imminent and probably not subject to change at this point. Whether it is an ideal step or not, it may lead to improved use of the stock. Many local governments may have more political potential for crafting compromises on raising rents and rationalizing allocation procedures than did the central government, which also may have been unduly influenced by the high proportion of state units in its own backyard, Budapest. In addition, local politicians may find it easier to communicate the attractiveness of charging higher rents to relatively higher income households in order to subsidize maintenance costs for the relatively poor. Establishment of that principle would make it easier to adopt a full-fledged housing allowance program.

In the short-term, the only restriction that must accompany this transfer of ownership to local governments is the prohibition on below-market sales and government finance. This would effectively freeze the disposition of the stock until a comprehensive rental housing law could be passed, along with provisions

for a central government agency to monitor local government's management and disposition activities.

The other advantage to the imminent transfer of ownership is that the IKV's monopoly on management of the stock would end. Unfortunately, local governments may be tempted to set-up their own management companies, or enter into exclusive contracts with firms. It would be desirable to add a requirement, either initially or subsequently, that competitive bidding be required on management contracts and that the bidding be for no more that 200 units at a time, thus permitting smaller firms to compete.

Initiating a Housing Allowance

In the short-term, ending below-market sales and transferring ownership to local governments will stabilize and possibly improve the use of the rental stock. The next step is to prepare and enact a wide-ranging law on rental housing in general in Hungary. At the center of this law would be a housing allowance program with subsidies tied to the tenant, not the unit. Building on the principle established in the most recent rent law, the subsidy would phase out entirely for families above some specified income level, adjusted for family size.

This housing allowance would provide the carrot to local governments to make desirable policy changes in the use of what would now be their housing stock. Specifically, a local government's housing units would be eligible for this central government subsidy only if it agreed to move towards "market rents" for all of its units.

What are market rents? There is no formula that dictates the rents that equate supply and demand, particularly in the short run, only trial-and-error. If a procedure for steadily raising real rents is installed and followed to the point that vacancies occur, then at that point and for that type and location of housing, demand and supply will have been balanced out and the market price roughly achieved.

The housing allowance could be simultaneously phased in. As rents rise, the subsidies needed to cover the excess between rents and the share of income required to be spent on housing will rise. This income share could also be increased gradually, such that initially most tenants would be receiving some assistance. If the income eligibility for the program is fixed at an absolute level, an increasing share of the market would be moved off the allowance as more of the labor market was paid market wages.

Since the allowance payments would represent significant revenues to local governments, there would be a sizable incentive to accept this restriction. In fact, these additional revenues could be used to placate tenants by permitting much needed renovations, or to improve landscaping or other maintenance. Alternatively, if a local government's rental stock is dominated by middle-income tenants who would receive no subsidies (e.g., in Budapest), the local government

could choose to keep rents low and stay out of the housing allowance program. This kind of local option should ease the path for enactment of such a program.

Other strings could come along with the housing allowance program, including requirements for competitive bidding on housing management contracts, for central government auditing of the overall management of the government-owned housing, and for separation in the accounting for rental income and operational expenses, so that each is evaluated separately.

Rental Market Regulation

The comprehensive rental housing law must also provide the basis of a strong private rental market. This includes ending any and all restrictions on rents on government or private rental housing, a prohibition on local governments limiting private rents, and provisions permitting relatively rapid eviction at the end of a lease, for non-payment of rent, or for other cause.

Such provisions could raise concern about tenants facing eviction because of temporary financial difficulty or traditional concerns of tenant rights, such as the potential for abuse by landlords. These concerns should be partly mitigated by the provision of housing allowance payments for cases of unemployment and by a reasonably competitive rental housing market. In addition, the law should include a number of "consumer protection" provisions, which prohibit abuse by landlords, while preserving the rights of disposition by the owner.

Action in this area is particularly pressing because steps have already been taken to raise rents on commercial tenants to "market" and the revenues from doing this could help finance housing sector reforms. However, it appears that the absence of strong eviction powers may prevent enforcement of increased rents on commercial properties.

Integration with the Tax Law

The proposed Rental Housing Law should also amend the law on the personal income tax in two ways. First, some of the windfall that local governments received through acquisition of the state-owned stock could be recaptured for the central government and used to help finance the housing allowance. For example, the personal income taxes returned to the local government could be reduced by half of any net profits from operation or sales of housing. Of course, if there are no profits because rents and prices are not raised to market levels, then there is no "tax" on the profits. But, if the availability of a housing allowance encourages the charging of market rents (as required to participate in the program), then half of the net profits to the local government will flow back to the central government.

Such a provision is desirable for two reasons. First, areas that are blessed with a relatively larger windfall of valuable housing should share some of that windfall with the rest of the country. Second, if local governments are not "taxed" on a basis equal to private landlords, the public sector will have

an unfair advantage in the production of additional rental housing. The tax-exemption of municipal housing could artificially encourage further government production.

Another distortion currently present in the tax law is the exemption of major employer subsidies for home purchase from taxation of personal income. The tax exemption of these subsidies penalizes those households which cannot or do not wish to buy a house. It also encourages employers to offer these subsidies instead of higher wages. Inclusion of the subsidies in taxable income should rationalize the situation.

Special Provisions for Central Budapest

A large portion of the state rental housing stock, nearly 200,000 units, is in central Budapest, and constitutes almost all the residential and commercial space in those districts. A number of special considerations apply to many of these units, including their architectural significance, touristic value, need for major renovation, potential for commercial use, and current use by prominent citizens. For all of these reasons, they should receive special handling, perhaps even be covered by separate legislation.

In particular, special provisions are needed to balance the needs of the sitting tenants and the need for major renovation and redevelopment of many buildings. Currently, tenants can effectively block redevelopment of properties unless satisfactorily "bribed." In addition, it appears that eviction for non-payment of rent is also difficult. If total redevelopment of buildings is difficult and both commercial and residential tenants cannot be made to bear the full cost of their occupying very valuable, centrally-located space in Budapest, the potential of Budapest to be a major European commercial and touristic destination will be limited.

One approach is to specify by statute a reasonable level of compensation for existing tenants for temporary or permanent relocation for purposes of redevelopment. This compensation should reflect only the economic and psychological costs of relocation and not reflect any ownership rights in the building, and should apply only to tenants in government-owned buildings (since owners of private rentals should have clear-cut powers of eviction at the end of fixed leases). No guarantee of relocation to "equivalent" premises should be provided. The philosophy is that no one is to be "grandfathered" to the old system of allocating flats and only authentic costs of disruption and relocation are to be provided for.

As the market for residential and commercial space evolves in central Budapest, market rent levels will change significantly. This reflects the need for space by the many foreign and Hungarian enterprises which will be transforming the Hungarian economy. The higher rents paid by these potential tenants can be a valuable source of funds for restoring the many damaged facades evident in the city, as well as catching up on other needed major renovation and maintenance. For this transition to occur, powers of eviction from government property for non-payment of rent must be strengthened. Reasonable delays can

be built-in to provide time for relocation and adjustment, but the creation of a flexible real estate market in central Budapest should proceed hand-in-hand with the restructuring of the Hungarian economy.

The passing of such a law for central Budapest also could be the occasion of strengthening whatever procedures exist currently for protecting historic building facades and controlling the architecture of new buildings. It appears that some such controls are already in place, but they may need to be updated and streamlined in anticipation of expanded redevelopment activity.

Apparently, it is quite difficult currently for a foreign entity, even in partnership with Hungarians, to obtain all the approvals needed to purchase property. It may be desirable to simplify procedures for sales and minimize the approvals for long-term leases of land and buildings to foreigners.

Relatedly, it is likely that local Budapest government will not be well-prepared to negotiate with very skillful real estate promoters. There is also a tremendous potential for corruption because of the very high stakes involved. Procedures should be developed to utilize private sector skills in negotiating sales or leases of properties in central Budapest and to provide for central government audits of major deals.

The proposed law could also provide for a program to accelerate the preservation of the critically deteriorated buildings in Budapest. The funds could come from the general budget or from the large rent inflows that could be earned from market rents on Budapest commercial properties. According to some observers, this deterioration is reaching crisis-proportions, since over 85 percent of the buildings in central Budapest are over 60 years old and most need major renovation.

Interrelations Between Reforms

It would be difficult in the best of circumstances for a country to make the kind of housing reforms discussed here simultaneously, or even in some ideal sequence. In Hungary's case, with massive changes pending in all sectors and very large political and economic uncertainties, such a goal is clearly impossible. Thus, some consideration needs to be given to which reforms are "time-sensitive" (i.e., needed immediately or in a certain sequence with other reforms), as well as how certain changes may set into motion other changes, even without any overt policy actions.

In the case of state rental housing, it appears that the transfer of ownership to local governments is a *fait accompli*. If so, it is urgent that restrictions on the sale of those units at less than market price be implemented as soon as possible. This is because local governments will be under fiscal pressure to raise rents on at least some units to cover the operating deficits they will inherit from the central government. As rents rise on the better quality units occupied by relatively better-off households, these units will be subject to increased buying interest.

It is also important that steps be taken soon to foster the growth of the private rental market. This must include improved eviction powers and a prohibition on local governments (especially in Budapest) controlling rent levels. If the state housing market is stabilized at rent levels that at least cover maintenance costs, sale prices are set to reflect value, and the private rental market is freed of over-regulation, then the urgency of reform in the rental housing sector is diminished. The next steps hopefully would include development of a housing allowance program that could be used to coax the local governments into further rationalization of the use of their rental stock. Clearly, it would be preferable to implement an allowance as soon as possible. However, if one or more years are needed to handle the technical and political issues, as long as the below-market sale of the stock is halted, most of the state rental stock and the growing private rental stock will be available for use with a housing allowance. Similarly, if improved housing finance is made available, ultimately a portion of the government housing stock can be sold off on an unsubsidized basis to provide a major source of revenue for further rental housing development or renovation.

Special action is a high priority in the case of central Budapest. The ability of existing residential and commercial tenants to block redevelopment or change in use must be limited to facilitate the growth in tourism as well as private "office-type" activities (e.g., firm management, consulting, representation to government) typical of a capital city in a private-enterprise, democratic country. Hopefully, these issues can be addressed in the next two years.

Housing and Intergovernmental Relations

Housing is a national issue, even aside from the social welfare aspects. Local policies that discourage production, sale, or rental of housing will affect the ability of the country to mobilize resources efficiently or to make full use of regional comparative advantages, as well as penalizing the public by making housing more scarce and costly. Since, in fact, local governments can significantly affect local housing markets, it is important that the legal and institutional relations between the central and local governments in Hungary include appropriate regulation of the local government role in the housing market. In particular, decision-making should be reserved to the central government when there is the strong potential for divergence of local and national interests.

The framework for local government ownership and operation of the state rental housing stock has been discussed above. Some comments have also been made with respect to regulation of the private rental market. In a country the size of Hungary, there does not seem to be any reason for local government to have any powers over the private rental market. All issues of the rights of tenants or owners should be similar across areas, despite the fact that differing political circumstances might create pressure for different rules.

The major concern is that the politics of Budapest, where renters are a majority, will lead to regulations that protect tenants to such a degree that no private rental market can develop. This kind of outcome is acceptable within

the context of democratic decision-making, but only when those who bear the costs (Hungarians seeking housing in Budapest) have a say as well as those who reap the benefits (those already with rental housing in Budapest).

A similar divergence of interest can appear in several aspects of the production process of new housing. This is more likely when the decision-making is in the control of a small area. Within a small enough area, e.g., a district of Budapest, very little is gained by the construction of any new real estate project, except for retail structures, while most of the non-market costs of the project, e.g., traffic congestion and the loss of open space, are felt principally by the local voters. Thus most districts of Budapest, and certainly most neighborhoods, will, if it is within their powers, seek to block new construction projects. Cumulatively, such blockages will push new development to the edge of the city or even to other cities, at the burden of the many households and enterprises that would benefit from the new production. The interest of existing residents in uncongested streets and public open space are not to be ignored, but an intergovernmental structure needs to be created to balance these against the national interests and to seek other ways to protect residents' interests, e.g., through setting national standards for street congestion and parks.

Local governments will carry the burden of providing infrastructure services to vacant land and may themselves be owners of developable (or redevelopable) land. The planning and approval process, the financing arrangements for infrastructure, and the disposition of government land are all very important to the state of housing in Hungary. This mission did not generate enough information to make recommendations on these matters, but they should be addressed as part of the overall analysis of the housing sector.

Housing Finance: The Use of a Dual Index Mortgage Instrument

The annex first briefly reviews and describes housing subsidies for homeownership in Hungary. Then it discusses how an alternative means of financing mortgage credit--the dual index mortgage--could more effectively satisfy some of the objectives of these subsidies without relying on the use of transfers.

The description of subsidies in section A is stylized rather than precise because the different subsidies can be combined in so many different ways. Nevertheless, the central messages are clear: the subsidies are very large--the present value of these subsidies is equal at a minimum to a multiple of the annual income of the beneficiaries; they are inefficient in that they substitute for finance; and they are regressive in that very large downpayments are necesary to gain access to them. The description of subsidies does not include the largest subsidy to homeowners--the difference between the interest rate on old NSB loans and the market rate of interest--for two reasons.

First, while government will incur the costs of this subsidy for a number of years, these costs are the result of past rather than prospective policy. The low interest rate policy that produced the costs has already been terminated. It is not possible to change these costs without changing the contracts that implied the current subsidy. Of course, as is discussed in the text, it is possible to develop taxes or redefine tax liabilities--such as use of a property tax or a broader definition of income--to help recapture some of this subsidy. But, this is not a subsidy issue; it is a revenue issue.

Second, these subsidies have been dealt with by recent changes in government policy which impose a higher interest rate on the beneficiaries of the old loans, thereby reducing the government's costs for this subsidy.

Section B provides a non-technical discussion of the dual index mortgage, comparing it with credit subsidies and alternative forms of indexation.

A. The Program of Subsidies

Housing accessibility is assisted by a complex set of housing subsidies. There are 5 main different subsidies associated with home purchase, and they are provided along 3 diverse tracts:

i) up-front subsidies by family's characteristics,
ii) subsidized loans by employees and Local Councils, and
iii) credit-related assistance.

The terms, conditions, and interactions of these subsidies vary widely. Consequently, we present stylized estimates of the per unit subsidy. Some of them address exclusively the high cost of housing, others deal with high repayments in the early years of a mortgage loan.

1. Up-Front Subsidies

There are two different up-front subsidies which families can get one time, based either on the family's size, or on the tenure status:

(a) "Social allowances", determined by the number of dependent children (or dependent members of the household):

after one child: 50,000 Forints,
two children:150,000 Forints,
three children:400,000 Forints,
for each child above three : 100,000 Forints / child

To give some perspective to these amounts, an average housing price is around 2 Millions Forints. Hence a family with 3 children receives approximately a 20 percent subsidy. Recent aggregate evaluations from the National Bank of Hungary reported 10 Billions Forints (0.6 percent of GDP) in 1989 for this subsidy.

(b) Beginning in 1990, a public grant of 150,000 Forints per young married couple's first dwelling was enacted. It is estimated by the National Bank of Hungary that these "Junior Subsidies" will cost 3 Billions Forints per year.

2. Employers and Local Council Subsidies

A second set of subsidies is granted by Local Councils and Enterprises, through subsidized loans that complement the main loan from NSB. These loans carry low fixed interest rate (often 0 percent) and long maturities. As was the case with pre-1989 loans from NSB, these subsidies increase if inflation rises. Aggregate estimates of National Bank of Hungary reported in 1989 3 Billions Forints from local authorities and 8 Billions Forints from employees. The exact allocation of these subsidies is particularly hard to quantify, but may constitute one major source of non-transparent allowances. For example, in principle they permit unprofitable enterprises that have public backing to implicitly, and almost certainly regressively, pass on the costs of their subsidies to the society at large.

3. The Credit-Related Subsidies

The third set of subsidies assists the repayments of mortgage loans. These allowances are the most inefficient of homeowners subsidies, because they substitute a government expenditure for a financial transaction that many would undertake but cannot because of the lack of an indexed mortgage. To focus on these latter credit-subsidies, we first assume both previous sets of subsidies averaged to 15 percent of Housing Price. This simplification is based on a "typical" case of a 4-member family purchasing a 2-Million Forint house, and receiving the 150 000 forints social allowances, plus the equivalent of other 150 000 Forints interest rate subsidy through an enterprise's low interest rate loan for the 70 percent of the house value that is financed. These credit

subsidies partially offset the high repayments of present mortgage under inflation, as depicted in Figure 2 in the text.

These credit subsidies are of two types:

(a) "Dependent Subsidies", as was the case with social allowances, they are also determined by the household's size. They reduce the repayments for the first 15 years of the loan. The amount of reduction depends on the number of children and a hypothetical loan's amount, as indicated in the following table:

Sum of the loan	Number of children or other Dependent	SUBSIDIES		
		1-5 Yrs	6-10 Yrs	11-15 Yrs
300 000 Forints	1	40%	20%	15%
400 000 Forints	2	70%	35%	15%
500 000 Forints	3 or more	80%	40%	15%

Source: National Bank of Hungary, March 11, 1990

Extra-grants are also available (30 000 Forints per dependent) for households earning less than the minimal income.

(b) A second set of "general subsidies" is granted more systematically, and also addresses unaffordable initial repayments. It reduces all remaining repayments by 30 percent for the first 5 years, and by 15 percent for the next 10 years.[1/] These subsidies are designed to reduce the "tilting" of real repayments discussed in the text and in section B of this annex.

1/ Source: David Parry, "Hungary's changing housing finance system", International Housing Finance, November 1989.

A stylized estimate of a "typical" use of these subsidies requires some assumptions about wage and inflation trends. Under conservative assumptions,[2/] the total value of these credit-subsidies alone represents:[3/]

For 2-sized families:	12.8 % of Housing Price, or 23.3% of Loan
For 3-sized families:	15.3 % of Housing Price, or 27.8% of Loan
For 4-sized families:	18.7 % of Housing Price, or 34.0% of Loan
For 5-sized families:	21.3 % of Housing Price, or 38.7% of Loan

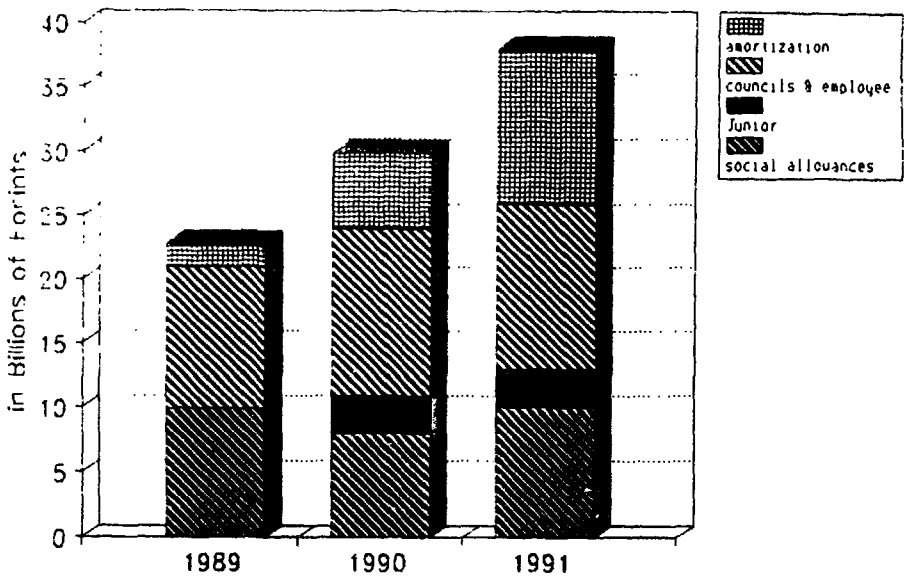
If these figures are added to the 15 percent estimated up-front allowances, total subsidies then represent between 28 and 37 percent of Housing Price. While these subsidies still impose difficult lending terms on households in the form of large downpayments and still entail a high portion of income allocated to housing (see Figure 3), they also confer large subsidies equal to 3 to 4.5 times the annual income of the limited number of beneficiaries who receive them.

Figures 1 and 2 present official estimates of the National Bank of Hungary on these subsidies: social allowances, (the bottom of the bar charts), junior grants to young couples, (the solid black portion of the bar charts), subsidies from local councils and enterprises (the lighter lined diagonal portions of the bar charts), and amortization subsidies (general and dependant subsidies on repayments) from 1989 to 1991, in nominal terms and related to GDP.

2/ (a) interest rates are actual figures of 1989 and 1990: 19.5% and 24.5%, and for later years we assume a progressive decline of inflation.
(b) maturity: 25 years,
(c) Housing Price/Income Ratio: 10 (official figures suggest higher figures, but these latter should be tempered by unreported incomes)
(d) up-front subsidies: 15% of Housing Price,
(e) cash-downpayments: 30% of Housing Price (which is a rather optimistic view in present Hungarian situation)
(f) incomes growths are supposed to represent 95% of corresponding expected interest rates.

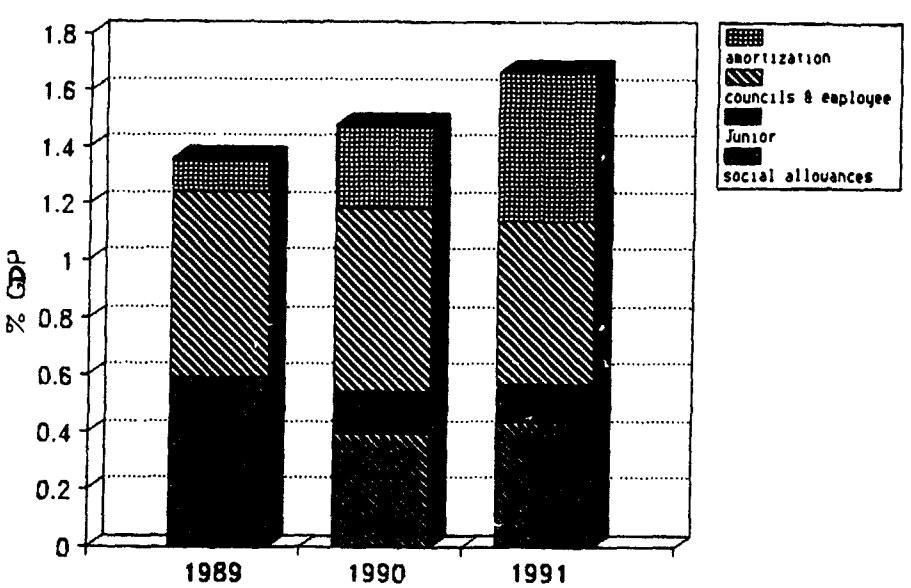
3/ All present and future expected subsidies on this mortgage contract have been computed, discounted to their present values, and eventually aggregated.

Figure 1
Expenditures on Homeowner Subsidies in Forints



As this program of subsidies has expanded in recent years, the 1991-figures give a better image of relative weights of these different plans. It shows an increasing and large amount of cumulative subsidies for credit repayments, the least efficient of the subsidies. The budgetary burden of these subsidies can also be illustrated in relation to GDP:

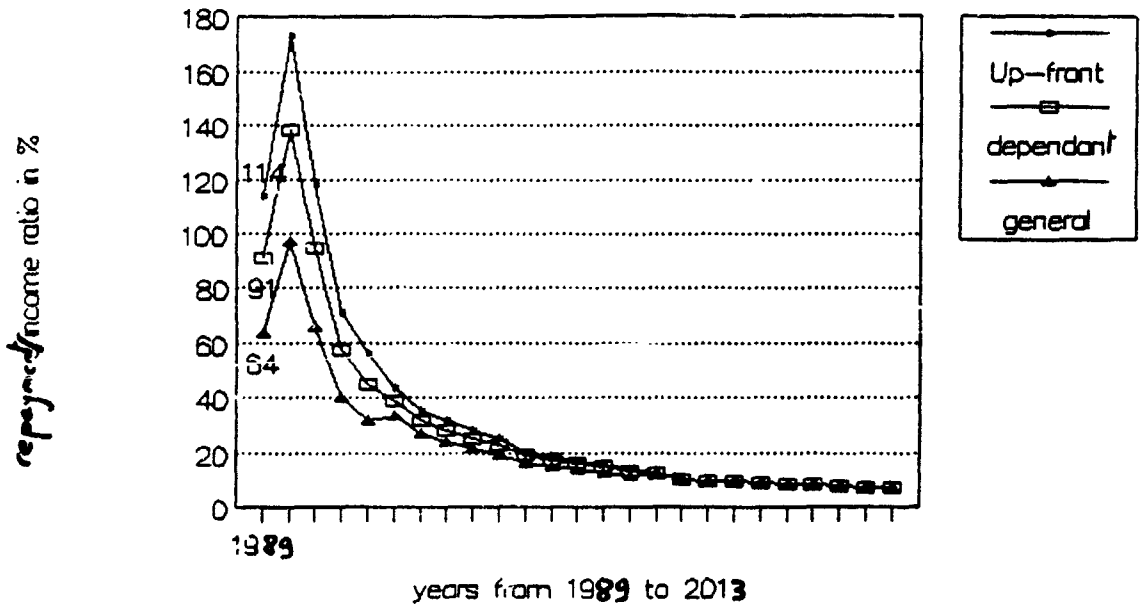
Figure 2
Share of GDP Allocated to Homeowner Subsidies



Once again, the share of credit subsidies as a share of GDP--i.e., the portion we have termed amortization--is large and growing.

Moreover, if interest rates do not decline, repayments and subsidies would be amplified. The following figure computes repayments-to-incomes for the type of mortgage contract initiated in 1989 (see footnote 2), for a pessimistic scenario of rates 4/:

Figure 3
The Effect of Subsidies on Mortgage Payment Efforts
(pessimistic scenario of rates)



The next section will show how a **Dual-Index-Mortgage** can in principle address these issues, and may transform some subsidies into sustainable finance.

To conclude, the current mortgage finance and subsidy system is inefficient, regressive, costly, and unpredictable. In addition, because borrowing still imposes some severe cash-flows problems on borrowers, the current financial scheme sets in motion a daisy-chain of inefficiencies induced by inability of NSE's lending terms to match present situation of prices and rates: cash downpayments are high, and other inefficient assistance (enterprises loans) is maintained.

4/ Nominal rates are supposed to be 40% in 1990, 35% in 1991, 25% in 1992, and for the later years should decline progressively.

B. The Repayment "TILT": How Inflation Makes Housing Unaffordable

In discussing the affordability of mortgage finance, it is helpful to distinguish between two kinds of affordability problems. The first one is faced by the absolute poor whose resources are so low that they cannot even afford the minimum standard of shelter that is available. Their problems are most effectively addressed by improvements in the functioning of basic infrastructure supply and/or providing tenure security. In other words, the basic approach to the housing problems of the very poor is to address the kinds of distortions on th real side of the housing market that prevent them from gaining access to housing. The encouragement of homeownership through a more efficient housing finance system is not the most practical direct method of providing shelter for the poor. Perhaps the central lesson of the shelter projects in developing countries is that, in a physical design sense, housing can be made affordable to most households. See World Bank Shelter: Policy Paper, (1980)

The second type of affordability problem arises because when contracts are written in nominal terms, inflation makes housing unaffordable to most families at market rates of interest. Inflation leads to an accelerated repayment of real debt or a "frontloading" of repayments that imposes a cash-flow rather than real economic cost on borrowers. The focus here is on mortgage contracting procedures that can address this latter housing affordability problem. From this perspective, the objective for redesigning mortgage contracts is to eliminate financial constraints that impede the affordability of housing for greater numbers of lower and moderate income households. The objectives 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.

The Mortgage Contracting Problem

Over the 1934-1959 period, lenders throughout the world relied largely on fixed-rate, equal-payment mortgages.[5/] With these instruments, even if real interest rates remain low, expectations of increasing inflation can raise the nominal interest rates on long-term mortgage debt very quickly. In fact, even with mild inflation loan affordability will be significantly reduced, because, even though there may not be a change in the real interest rate, such mortgages "redistribute" real payments towards the early years of the loan[6/]. This tilting

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5/ The U.K., Canada and some former British colonies are exceptions to this description as was the U.S. prior to 1934. However, until some Latin American countries started to index loan repayments; Chile in 1959, Brazil 1964, Colombia 1972, Paraguay 1973, and Argentina 1976, fixed payment loans were the common financing vehicle in most countries.

6/ For a review of the repayment tilt problem and international experience with indexation see F. Modigliani and D. Lessard eds. New Mortgage Designs for Stable Housing in an Inflationary Environment. Federal Reserve Bank of Boston Conference, January 1975.

of the real repayment stream causes an increasing mismatch between real loan repayments and the income capacity of households over the life of the loan.

For example, consider a household with a family income of $3,000 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 $12,000, an amount four times annual income. 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 initial income the household can now afford a mortgage of only $4,500, a figure 1.5 times more than annual income. Put another way, when the inflation rate increases from zero to 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 payment burden that occurs with only a relatively small increase in the rate of inflation, an increase 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, financing for purchasing homes is not affordable for most families.[7/]

2. Addressing the Repayment Tilt Problem

Until the early 1980s, the mortgage repayment tilt problem was treated in one of two ways: (i) as an affordability problem that required subsidies; or (ii) as a contracting problem that could 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 first 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 are used to "buy down" the cost of housing finance with below-market interest rates. While this practice is widespread, there are at least three problems with this approach.

7/ Data on the inflation rate in developing countries from the World Development Report, (1989), p. 63.

First, 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 subsidies 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.

Second, below-market credit provides a subsidy to solve what in most cases is a contracting problem. At rates of inflation lower than 25 to 30 percent a year, carefully designed mortgage indexation schemes can eliminate the cash-flow costs imposed by high nominal payments, and can do so without subsidy. While it is difficult to measure precisely how much a credit subsidy really is because of the difficulties in projecting inflation and the appropriate 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 8 percent, the subsidy necessary to eliminate the tilt problem is on the order of 60 to 70 percent. Hence, to accomplish the same result with subsidies as can be accomplished with changing the form of the contract large subsidy rates are required. Besides the direct costs associated with such subsidies, it is also important to note that such large per unit subsidies generate similarly large "deadweight losses" from the government intrusion in the market.

Third, interest rate subsidies do not really solve the repayment tilt problem by reducing the higher costs in the early years of a loan. Rather, they reduce real repayments throughout the loan's life. As a result, with a subsidy, interest payments in the later years of the loan can 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 1 or 2 percent of income. Clearly this kind of subsidy mechanism gives beneficiaries larger than necessary subsidies.

Indexed Mortgages: Indexed to Wages or Prices?

As a potential solution to the central problem facing housing finance institutions in an inflationary environment--i.e., sustaining the flow of funds--indexed mortgage contracts seem promising. For lenders it is a way to preserve the real value of the repayments over the maturity of the loan. For borrowers, if indexation reduces the large payment burden in the early years of repayment, it may help prevent them from being locked out of the housing market by a cash-flow constraint. Yet recent experience with indexed mortgage contracts in a number of countries has underscored the point that indexation is not by any means an automatic solution to housing finance problems. In order to consider the types of problems that can arise, it is helpful to consider a hypothetical example in a real historical setting.

One way to lower the high front-end costs is to index the monthly mortgage payments to the overall increases in prices in the economy. Thus, if the lender required the payment level to increase 30 percent each year to keep pace with inflation, the real value of the payment stream would not be eroded by inflation. The real payment stream would become identical to the nominal payment stream under conditions of no inflation. Indexation shifts to the later years of the loan. However, as discussed earlier, such a solution leaves unchecked the vulnerability of the borrower to wage shocks. Of course this vulnerability cannot be eliminated, but it can be anticipated and contracted for at the outset in ways that maximize full loan recovery.

For example, if payments start at 25 percent of income and are allowed to rise along with the price level at 20 percent each year while real wages follow the historical pattern, a repeat of the Hungarian past would result in significant increases in the share of income devoted to repayments. The overall pattern would not be terribly disruptive. But, it is worth remembering that the increase in the share of income allocated to mortgage repayments would come at the same time that real income was declining. As a result, there is an inherent difficulty with this form of indexation. Depending on the behavior of real wages, the income percentages allocated to payments could be much higher and increase at exactly the "wrong" times. It is this kind of problem that has created serious drawbacks for systems in Brazil and Argentina.

In short, mortgages that rely on price indexes can experience problems when the level of the borrowers' income does not keep pace with the general level of prices in the economy. When the burden of real mortgage repayments increases, repayment becomes more uncertain. And, when this happens, the lending institution is faced with the prospect of large numbers of defaults on its loans. When real wages oscillate, the indexation of repayments to prices does not eliminate the tilt in the repayment stream. Instead it replaces the initial tilt of the real payment/income ratio with the possibility of "hills" and "valleys" in the ratio. Real payments are constant, but real income is not. Hence, there remains the possibility of sharp increases in the ratio.

Attempts to address this "hills and valleys" problem in the payment-to-income ratio have prompted some countries to focus their indexation schemes on wage, rather than price, indices. Typically, a fixed proportion of family income--say 25 percent--is designated for repayment of the mortgage. Each year, as wages nominally increase, so do the monthly payments. The advantage of this approach is that it protects borrowers from the sudden shocks that can occur if real incomes fall, since the portion of income devoted to repayment remains the same.

If monthly payments are capped at 25 percent of income, we find that real payments are sometimes higher and sometimes lower than those in the price indexation system. But, because of the cap on the amount of increase, the "hills" in the payment-to-income ratio are eliminated. Real wage reductions do not require increases in the share of income allocated to repayments. Similarly, because payments increase with wage increases the reduction in the ratio due to increasing wages is also eliminated. In the end, however, all is not sanguine

with this method of indexation. While borrowers are protected under a system of wage indexation, the lender is not afforded the same protection.

Lenders' protection is reduced because, if wages fall, the amount that would have been required to preserve the real value of the payment and to match inflation is implicitly "forgiven." For the lender not to incur a loss he must realize real payment increases of sufficient size and timing to offset the losses. Depending upon the pattern of the amounts "forgiven," they can amount to a substantial subsidy on the part of the lender.

So far, two forms of indexation--one tying payments to prices, the other tying payments to wages--have been shown to be often flawed if and when real wages fall. On the one hand, indexing payments to inflation places the risk on the shoulders of the borrower whose concern is that payments can quickly become unaffordable when real wages do not keep pace with inflation. On the other hand, indexing payments to wages places the onus on the lender. The lender must take the risk that real wages will be unaffected by inflation. If they do not, the lender may recoup only a portion of the real amount lent.

C. Combining Wage and Price Indices

One way out of this quandary involves a dual system of wage and price indexation designed to tackle the concerns of both borrowers and lenders. Borrower concerns are addressed because loan repayments are indexed to wages so that a borrower never has to pay a portion of his income that exceeds a comfortable or commonly accepted level (about 25 percent). At the same time lenders concerns are taken care of because: (i) the loan balance is indexed to prices rather than wages, so that any portion of interest and principal due over and above a given portion of income is capitalized into the amount of the loan outstanding; and (ii) the loan maturity is variable to permit shortfalls in real repayments to be offset, or earlier real repayments to pay off the loan more rapidly.

Like instruments that rely on a wage index, with a dual index instrument real repayments are accelerated in years when incomes are rising relative to inflation, and in years when real wages fall, the loan is repaid more slowly. However, unlike a wage-indexed loan the real value of the loan is no longer uncertain. In principle, with this instrument it is the loan's maturity date rather than its value that is uncertain. In practice, the analytical question becomes one of setting an initial loan maturity schedule such that the loan terms provide for a sufficient amount of possible maturity extension that any shortfalls in real payments can be accommodated by term lengthening.

For example, if loan terms are such that: (i) in the absence of any real wage changes the loan would fully amortize in 15 years; but (ii) borrowers are told that a payment of a specific percent of their income for at the most 30 years assures full repayment of the loan, then lenders gain the possibility of 5 more years of repayments to "cushion" any losses attributable to payment

reductions due to real wage declines not offsetting payment increases.[8/] The cost to borrowers of this kind of arrangement is that the payments are higher because the original loan is set to amortize 15 rather than 30 years. However, borrowers also gain from this method of indexation because real wage increases amortize the loan more rapidly, and accordingly, their loan can be paid off earlier if such gains are achieved. With systems that relied only upon a wage index, the value of these accelerated repayments did not accrue to borrowers. Most importantly, borrowers gain from this method of financing because the lender (or the government) bears the risk that even with maturity lengthening the loan may not amortize. In a sense, this arrangement is much like writing an insurance contract with deductables; borrowers are responsible for anticipated possible volatility in real wages, but they are not responsible beyond some limit.

In summary, a dual index mortgage is like wage indexation in its attempts to balance out fluctuations in real repayments over the course of the loan. However, unlike wage indexation, balance is achieved not only by smoothing the hills and valleys of the payment-to-income payment ratio, but also by allowing the length of the repayment period to vary. In other words, the constancy of the ratio is maintained by building in what we have termed a rescheduling cushion of sufficient length that the loan is fully repaid.

Of course it is possible that if the real wage environment is sufficiently volatile then the size of the rescheduling cushion needed to amortize the loan may become so large that the initial payments are not reduced very much relative to what they would be with a nominal interest rate loan. Alternatively, loan forgiveness may be necessary at the end of the loan. However, research has shown that even in relatively volatile wage environments a 5 year rescheduling cushion would have been sufficient for full repayment as long as the initial housing standards matched the household's initial income level.[9/]

Early experience with dual index loans suggests that because the dual indexed mechanism is so different from traditional ones that in some countries a shift to such an instrument will require a comprehensive reorganization of the repayment collection system. The use of a new software package, and reorientation of the staff may be needed so that the underwriting requirements

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8/ An important feature of the loan term setting is that a payment factor is selected such that: (i) the loan would fully amortize in a period less than the extended maturity period, if there are no real wage reductions, and (ii) the amount of term extension to cushion the possible real wage reductions is such that the extended loan fully amortizes after accounting for the anticipated possible real wage shocks. If these conditions are not fulfilled the loan can introduce moral hazard into the contract. That is, borrowers could be induced to take "too big" a loan because the risk of repayment at the end is not theirs. In additon, without careful underwriting provisions, the loan contract has to be based on an aggregate rather than individual wage performance or moral hazard could be induced.

9/ See Buckley, Lipman and Persaud (1989).

protect both lenders and borrowers. For example, borrowers whose real payments have been accelerated need to be told that their debt is terminated earlier. Even more importantly, loan terms need to be set so that the rescheduling period does not simply become a means of providing implicit subsidies. While there is no doubt this system is more administratively complex, there is also no doubt that these higher administrative costs are but a fraction of the costs involved with providing either "affordable" fixed interest rate loans or partially indexed loans, and it can often be considerably less risky to use this approach than relying upon only a wage or price index instrument.