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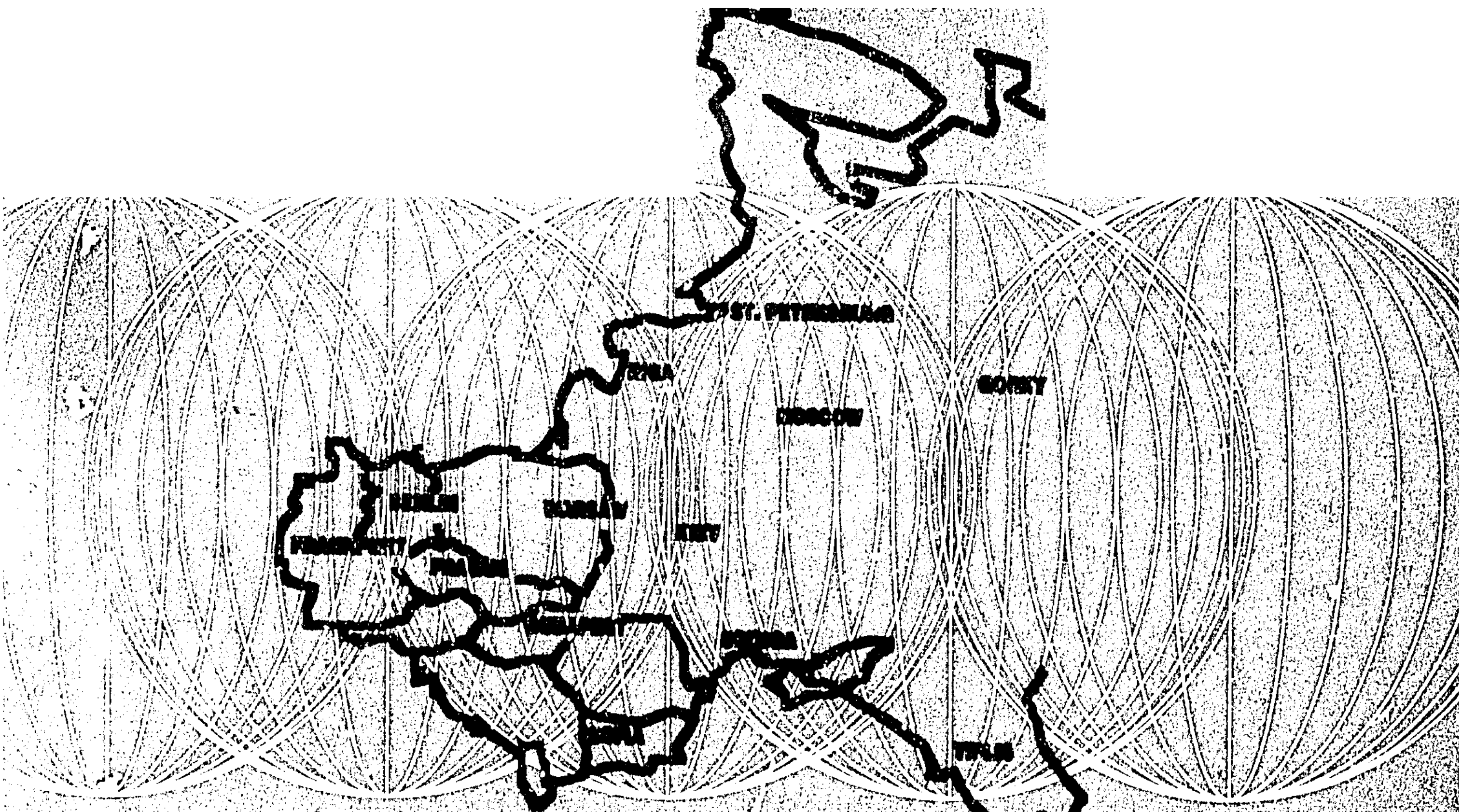
AN INTERNATIONAL ACTIVITIES PROJECT

# FROM PLANNING TO MARKETS

## HOUSING IN EASTERN EUROPE




THE URBAN INSTITUTE

Prepared for the Office of Housing and Urban Programs (USAID)

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# OPTIONS FOR SUBSIDIZING HOME PURCHASE

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**ABSTRACT**

At the request of several banking officials, this paper provides information on options for subsidizing home purchases. Three subsidy programs are discussed: *interest rate subsidies*, under which the government pays part of the interest payment on the mortgage loan; *end of term subsidies*, which pay off the remaining loan balance of an indexed mortgage after a given loan period; *downpayment subsidies*, which provide funds, as a grant, to buyers making an initial payment at the time of home purchase.

## OPTIONS FOR SUBSIDIZING HOME PURCHASE

In a previous paper prepared under the AID Shelter Sector Reform Project, "A Structure for Housing Finance in the Russian Federation" by Ray Struyk and Nadezhda Kosareva, several options for assistance to potential homeowners are outlined. At the request of several banking officials, this paper provides further information on options for subsidizing home purchase. Three subsidy options are discussed:

- *Interest rate subsidies.* Under a program offering interest rate subsidies, the government pays part of the interest payment on the mortgage loan. For example, the Russian Federation presently pays 12 percent of the 20 percent interest rate charged on long-term housing loans by Sberbank.

- *End of term subsidies.* End of term subsidies pay off the remaining loan balance of an indexed mortgage after a given loan period. In Turkey, after 20 years the loan balance is forgiven.

- *Downpayment subsidies.* Lastly, downpayment subsidies provide funds, as a grant, to buyers making an initial payment at the time of home purchase. Under a program in Chile, eligible purchasers receive a subsidy up to 75 percent of the housing cost.

Following is a detailed description of the subsidies outlined above.

### INTEREST RATE SUBSIDIES

#### *HUD, Section 235*

A U.S. federal government program administered by the Department of Housing and Urban Development provides assistance to homeowners who would not be able to afford the costs of buying a home. The program is generally known as "Section 235" after the section of the National Housing Act in which it is defined. The program provides two elements of support: (1) subsidizes mortgage payments by reducing the effective interest rate; and (2) provides mortgage insurance to the lender. The direct subsidy takes the form of an interest rate reduction, lowering the buyer's monthly payments. The rates have been administratively set at 4 to 8 percent, depending on the market rate.

#### *Subsidy Calculations*

Under Section 235, the subsidy fills the gap between a percentage of the household's income and their housing cost. Higher income households, therefore, receive smaller subsidies. The subsidy payment is the difference between the full housing payment, including mortgage principal and interest at the market rate, the

FHA mortgage insurance premium, hazard insurance, and property taxes, and 20 percent of the buyer's income. The formula for the subsidy is thus:

*(Market payment + Insurance + FHA insurance + Taxes) - (0.20 * Income)*

Under Section 235, there is, in effect, a cap on the subsidy as the program will lower the effective interest rate no lower than 4 percent. If this subsidy does not fill the gap between the mortgage payment and 20 percent of the household's income, the household pays the difference. Therefore, the household will be required to contribute more than 20 percent of income if the mortgage payments are sufficiently high. Another way to limit the subsidy is to set a maximum mortgage eligible for the program. A household wanting a higher cost house can make up the difference with a higher downpayment.

### *Income Limits*

Income limits for Section 235 are based on adjusted income rather than gross income. Originally, the limit was 135 percent of the income limit set for eligibility for public housing. Later, the limits were set at a percentage of regional median income—80 percent in 1974. In 1976, HUD established a range of limits, according to family size, from 67 percent of regional median income for a single person to 119 percent for a family of eight or more. The resulting income limits were significantly higher than those of the rental assistance program.

Assets are not taken into account when determining eligibility; there is no asset limit. A household with a low income and large assets could make a substantial downpayment and take out a mortgage meeting the Section 235 limit, thus qualifying for the subsidy. One exception is that the buyer cannot own another house; this prevents participants from using the loan to subsidize income-generating property.

Income is certified once a year, but may be recertified at the homeowner's request if the family has suffered a reduction in income. A minimum income was established to ensure that the buyer can meet the monthly payments. Only steady income is used to determine a family's purchasing power.

### *Cost Limits*

Ceilings were established to limit the cost of the home that can be purchased under the program. There are limits on the mortgage amounts qualifying for the program and on the sales price of the home. These serve to: (1) limit the subsidy cost to the government; and (2) insure that the family will be able to afford the expenses of maintaining the home.

### *Downpayments*

The program initially required only $200 to become a homeowner. Almost the entire cost of the house was financed. However, the lack of equity in the house meant that families had little incentive to continue to make mortgage payments if they become delinquent—dropping out of the program was costless. In 1975, when the program was revived, families were required to make a downpayment. The minimum investment was 6 percent of the purchase price including closing costs. The requirement was later reduced to 3 percent, which may include the closing costs. A buyer could also reduce the downpayment through his own labor on the house.

### *Assessment*

The Section 235 program has had a high rate of default on mortgages. Revisions to the program have sought to address this problem. The required downpayment was raised to increase incentive to make payments; increased counseling for first-time buyers offered advice on budgeting and saving for major repairs. The revised program also raised the effective interest rate from the original 1 percent to 4 percent—effectively raising the income floor as families needed a higher income to be able to afford the increase in their monthly payments.

Critics of the program argue that the routine costs of maintenance and repair are too much for those of limited income. The program, however, does not target the lowest income groups. Downpayment requirements to insure financial strength of the buyer and the maximum subsidy create a program that targets middle income groups. Additionally, there has been criticism of the equity of the program. With limited resources for the program, not all eligible families can be served. And with the income limits, the program results in those just eligible becoming better off than those just above the income limit (and, therefore, ineligible).

Defenders of the program argue that under the homeowner assistance program the subsidy per family declines, as statistics show that participants report higher incomes when recertified. Mortgage payments are fixed and incomes increase with inflation; many buyers go off the subsidy after several years and new families can be served.

## END OF TERM SUBSIDIES

### *HDA Loans in Turkey*

In May of 1989, the Housing Development Authority (HDA) of Turkey began to issue dual-indexed mortgages (DIM). The DIM attempts to distribute risk between borrowers and lenders. The loan balance is indexed to a measure of inflation to

**TABLE 1**
**BASE DATA FOR MORTGAGE INSTRUMENT SIMULATIONS**
**TURKEY 1970-1990**

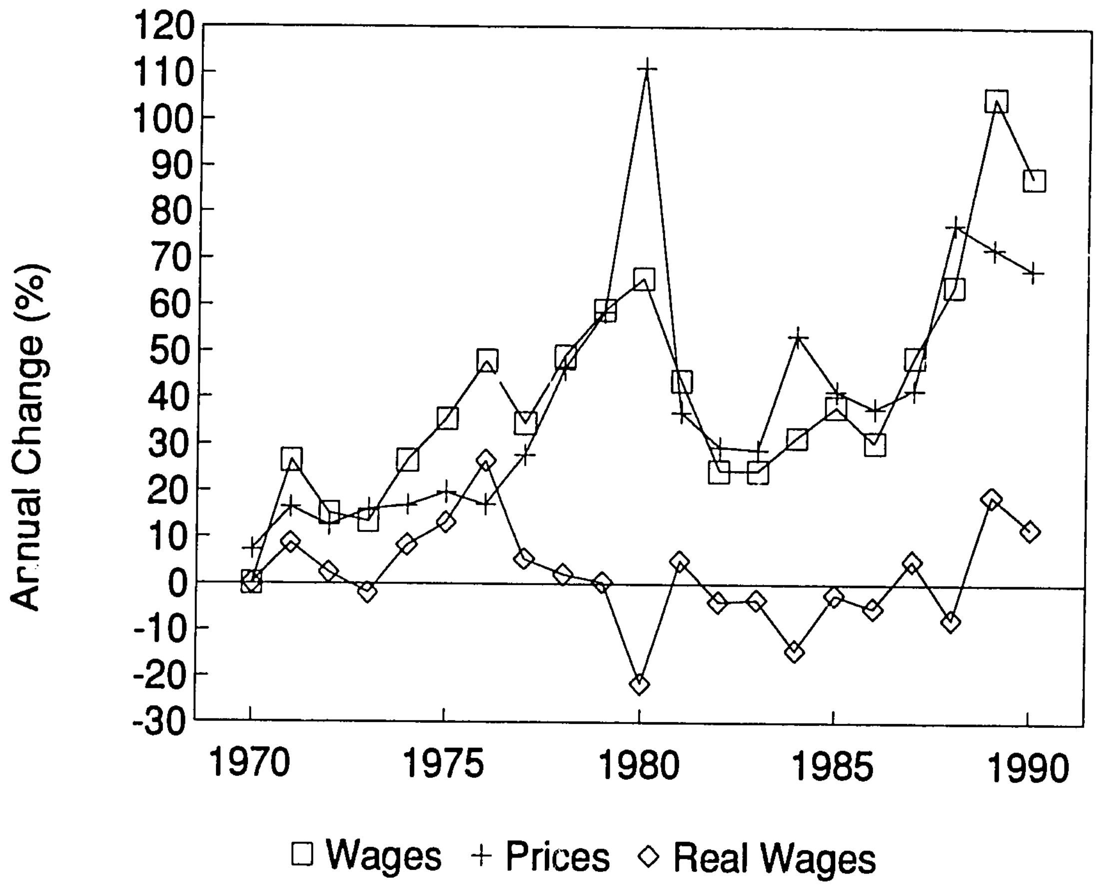
| Year | Nominal Annual Income (TL) | Annual Change (percent) Wages | Prices | Real Wages | 1-Year Deposit Rate (percent) |
|---|---|---|---|---|---|
| 1970 | 14,601 | n/a | 7.3 | n/a | 9.00 |
| 1971 | 18,471 | 26.5 | 16.4 | 8.6 | 9.00 |
| 1972 | 21,266 | 15.1 | 12.5 | 2.3 | 9.00 |
| 1973 | 24,129 | 13.5 | 15.9 | (2.1) | 7.00 |
| 1974 | 30,524 | 26.5 | 16.8 | 8.3 | 9.00 |
| 1975 | 41,318 | 35.4 | 19.7 | 13.1 | 9.00 |
| 1976 | 61,092 | 47.9 | 17.0 | 26.4 | 9.00 |
| 1977 | 82,131 | 34.4 | 27.7 | 5.3 | 9.00 |
| 1978 | 122,287 | 48.9 | 46.1 | 1.9 | 12.00 |
| 1979 | 194,151 | 58.8 | 58.3 | 0.3 | 20.00 |
| 1980 | 321,587 | 65.6 | 111.2 | (21.6) | 33.00 |
| 1981 | 461,754 | 43.6 | 36.9 | 4.9 | 50.00 |
| 1982 | 574,421 | 24.4 | 29.4 | (3.9) | 50.00 |
| 1983 | 713,869 | 24.3 | 28.8 | (3.5) | 45.00 |
| 1984 | 938,013 | 31.4 | 53.4 | (14.3) | 45.00 |
| 1985 | 1,294,770 | 38.0 | 41.4 | (2.4) | 55.00 |
| 1986 | 1,689,158 | 30.5 | 37.6 | (5.2) | 48.00 |
| 1987 | 2,513,131 | 48.8 | 41.7 | 5.0 | 51.50 |
| 1988 | 4,119,480 | 63.9 | 77.4 | (7.6) | 68.71 |
| 1989 | 8,435,118 | 104.8 | 72.1 | 19.0 | 65.83 |
| 1990 | 15,828,895 | 87.7 | 67.6 | 12.0 | 57.25 |

Notes

1. Nominal Annual Income and Wages series were derived from State Statistical Institute (SIS) data on average wages for manufacturing in both state and private sectors.
2. The prices series was calculated as a weighted average (based on population) of consumer price indices for Ankara, Istanbul, and Izmir provided by the SIS.
3. One-year time deposit rate is the average rate based on the monthly series published by the Banks Association of Turkey.

protect the lender from erosion of the real value of the loan. Payments are indexed to some measure of income, or wage index, in order to maintain the affordability of the loan to the household. In circumstances where real wages are falling, households would not be required to make the full payment of principal; the unpaid portion is capitalized into the outstanding balance. Because the real rate of repayment can

**FIGURE 1**
**BASE DATA FOR MORTGAGE INSTRUMENT SIMULATIONS**
**TURKEY 1970-1990**




vary, the loan term must be flexible to accommodate accelerated real repayments when real wages are rising or shortfalls in the real repayment when real wages is falling. In the case of Turkey, once the maximum term of the loan is reached, the outstanding loan balance is forgiven. The result is an end-of-term subsidy to the borrower under the scenario in which real wages are falling.

The terms of the DIM in Turkey are the following:

- Maximum loan amount of TL 11 million (Turkish lira);
- Principal indexed to the change in CPI and adjusted semi-annually;

## TABLE 2
## DUAL-INDEX MORTGAGE

| LOAN TERMS (Base year: 1976) | |
|---|---|
| Annual household income (TL) | 61,092 |
| Share of income to housing (percent) | 25.0 |
| Interest rate (percent) | 4.00 |
| Loan term (years) | 15 |
| Loan amount (TL) | 169,811 |
| Loan-to-value ratio; 2-bedroom flat (percent) | 96.5 |

| | Nominal | | | | | Real | | Payment/ |
|---|---|---|---|---|---|---|---|---|
| Year | Payment | Interest | Principal | Inflation Adjustment | Loan Balance | Payment | Loan Balance | Income (percent) |
| 1977 | 20,533 | 8,674 | 11,859 | (47,039) | 204,991 | 16,079 | 160,524 | 25.0 |
| 1978 | 30,572 | 10,471 | 20,101 | (94,456) | 279,346 | 16,389 | 149,749 | 25.0 |
| 1979 | 48,538 | 16,323 | 32,215 | (162,892) | 410,023 | 16,436 | 138,840 | 25.0 |
| 1980 | 80,397 | 25,965 | 54,432 | (455,930) | 811,520 | 12,890 | 130,113 | 25.0 |
| 1981 | 115,439 | 68,556 | 46,883 | (299,172) | 1,063,809 | 13,523 | 124,621 | 25.0 |
| 1982 | 143,605 | 58,240 | 85,366 | (312,761) | 1,291,205 | 13,001 | 116,893 | 25.0 |
| 1983 | 178,467 | 66,833 | 111,635 | (371,544) | 1,551,114 | 12,546 | 109,045 | 25.0 |
| 1984 | 234,503 | 79,898 | 154,605 | (827,996) | 2,224,504 | 10,748 | 101,959 | 25.0 |
| 1985 | 323,693 | 136,478 | 187,214 | (921,206) | 2,950,496 | 10,492 | 95,891 | 25.0 |
| 1986 | 422,289 | 167,346 | 254,943 | (1,113,315) | 3,816,868 | 9,945 | 89,887 | 25.0 |
| 1987 | 628,283 | 210,128 | 418,155 | (1,592,211) | 4,990,924 | 10,441 | 82,938 | 25.0 |
| 1988 | 1,029,864 | 282,916 | 746,948 | (3,862,086) | 8,106,062 | 9,648 | 75,940 | 25.0 |
| 1989 | 2,108,779 | 575,148 | 1,533,631 | (5,846,902) | 12,419,333 | 11,477 | 67,593 | 25.0 |
| 1990 | 3,957,224 | 855,096 | 3,102,128 | (8,392,985) | 17,710,190 | 12,852 | 57,518 | 25.0 |
| 1991 | 6,218,381 | 1,187,149 | 5,031,232 | (9,574,837) | 22,253,795 | 13,109 | 46,912 | 25.0 |
| 1992 | 9,086,299 | 1,371,403 | 7,714,896 | (9,625,033) | 24,163,933 | 13,371 | 35,559 | 25.0 |
| 1993 | 12,474,580 | 1,384,605 | 11,089,975 | (8,360,953) | 21,434,911 | 13,638 | 23,435 | 25.0 |
| 1994 | 16,245,645 | 1,154,064 | 15,091,582 | (5,933,348) | 12,276,677 | 13,911 | 10,512 | 25.0 |
| 1995 | 15,622,298 | 626,998 | 14,995,299 | (2,718,623) | 0 | 10,952 | 0 | 19.3 |

| | |
|---|---|
| Total real repayments (constant 1976 TL) | 241,447 |
| Lender's real IRR (percent) | 4.00 |

Note: Simulation assumes real wages increase by 2 percent annually beginning in 1991.

- No payments made during construction period up to 18 months, with the first payment calculated as 1.0 to 2.5 percent of the loan depending on the size of the unit;

- Subsequent payments are adjusted semi-annually by multiplying the monthly payment by the change in the wage index;

- The differential between CPI and the wage index is calculated and the excess amount is capitalized;

- At the end of the maximum term, any remaining balance is forgiven.

The mechanics of the DIM are demonstrated by the following examples. Under the conditions in Turkey from 1971 to 1980, the following loan would close early—in ten years: a 15-year loan for TL 40,[illegible]85 at 4 percent, with an annual household income of TL 14,601 and a 25 percent share of income spent of housing. Real wages were positive for most of the years in the period (see Table 1 and Figure 1 on previous pages). Payments were increasing faster than the adjustments to principal.

Another example illustrates a DIM originating in 1976 in Turkey: a 15-year loan of TL 169,811 at 4 percent, with an annual household income of TL 61,092 and a 25 percent share of income spent of housing. During the loan period real wages were negative (Table 1 and Figure 1) and the loan does not close in 15 years (see Table 2 on the previous page). The policy of forgiving the remaining loan balance after the loan period, i.e. an end-of-term subsidy, would cost TL 46,912 in real terms—the outstanding balance after 15 years—or 28 percent of the original loan.

## DOWNPAYMENT SUBSIDIES

### *MINVU Housing Loans, Chile*

The Chilean Ministry of Housing (MINVU) offers downpayment subsidies up to 75 percent of the housing cost for either existing housing or new construction.

Under the *Basic Housing Program* (BHP) in Chile, the Government contracts for the construction of basic homes of about 28 to 35 square meters, with a maximum cost of UF 300.[1] Housing is divided into three levels according to cost. Level 1 is the lowest cost housing which a household can apply to purchase, and Level 3 is the highest. The state pays up to 75 percent of the cost; the remainder is

1 The "Unidad de Fomento" (UF) is a bond-related monetary unit indexed to the Chilean CPI and revalued daily on the basis of the previous month's inflation rate.

financed through participants' savings and a 12-year mortgage carried by the Ministry for Level 1 houses, and private mortgages for Levels 2 and 3.

Beneficiaries are selected through a process in which weights are given for need, family size, the amount of family savings, and the length of time in which systematic savings have been deposited. All households applying to the program must open a contract savings account, and priority depend on their savings efforts and the number of years they have been saving. Need is determined by a poverty measurement index which includes income, apparent wealth, and living conditions among its 30 factors. Current living conditions are assigned the greatest weight in the index.

The program has been fairly well targeted. The lowest 30 percent of the income distribution have received 60 percent of the benefits; the middle 30 percent have received 36 percent; and the upper 40 percent have received 12 percent.

Another program, the *Unified Subsidy Program* (USP), provides subsidies to cover a portion of the cost of purchasing a house on the private market. Participants are given a subsidy certificate and have 20 months to locate their own house on the open market. The balance of the price of the house is covered by the savings of the purchaser and a mortgage loan provided on commercial terms through the private housing finance system. Potential participants compete for the subsidies on the basis of the amount of the subsidy requested (higher weights are given for lower subsidies), the amount and regularity of their prior savings, and family size. Those applying for the highest subsidy must be in the bottom 60 percent of the income distribution—having a monthly income of less than UF 15. The subsidy level declines with higher housing costs.

Following is the schedule of subsidies under the housing programs:

| Program | Cost of House (UF) | Gross up-front Subsidy |
|---|---|---|
| Basic Housing Program Level 1 | Less than 215 | 75% of cost |
| Basic Housing Program Level 2 | 215 - 259 | 56% of cost |
| Basic Housing Program Level 3 | 260 - 300 | 48% of cost |
| Unified Subsidy Program Level 1 | Less than 400 | UF 120 - UF 150 |
| Unified Subsidy Program Level 2 | 400 - 900 | UF 100 - UF 130 |
| Unified Subsidy Program Level 3 | 900 - 2,000 | UF 80 - UF 110 |

The World Bank gives the up-front approach very high marks. Up-front subsidies are easily understood by beneficiaries and legislators. The costs of the program are explicit and no long-term budget commitment is undertaken. The program does not generate contingent liabilities. Additionally, the program is easily administered.

However, in the case of Chile, the World Bank believes the Chilean program could do even better. In particular, the Bank believes that subsidy levels are too high and that resources could be better allocated to serve lower income households. During negotiation with the World Bank on the Structural Adjustment Loan, the Chilean Government agreed to certain modifications of the housing program, such as a yearly reduction in the average subsidy of the USP and inclusion of administrative costs and costs of capital during construction in the unit prices for houses produced under the BHP.

## OPTIONS FOR SUBSIDIZING HOME PURCHASE

In a previous paper, "A Structure for Housing Finance in the Russian Federation" by Ray Struyk and Nadezhda Kosareva, several options for assistance to potential homeowners are outlined. At the request of several banking officials, this paper provides further information on options for subsidizing home purchase. Three subsidy options are discussed: (1) interest rate subsidies; (2) end of term subsidies; and (3) downpayment subsidies.

Under a program offering interest rate subsidies, the government pays part of the interest payment on the mortgage loan. For example, the Russian Federation presently pays 12 percent of the 20 percent interest rate charged on long-term housing loans by Sberbank. End of term subsidies pay off the remaining loan balance of an indexed mortgage after a given loan period. In Turkey, after 20 years the loan balance is forgiven. Lastly, downpayment subsidies provide funds, as a grant, to buyers making an initial payment at the time of home purchase. Under a program in Chile, eligible purchasers receive a subsidy up to 75 percent of the housing cost. Following is a detailed description of the subsidies outlined above.

## INTEREST RATE SUBSIDIES

### *HUD, Section 235*

A U.S. federal government program administered by the Department of Housing and Urban Development provides assistance to homeowners who would not be able to afford the costs of buying a home. The program is generally known as "Section 235" after the section of the National Housing Act in which it is defined. The program (1) subsidizes mortgage payments by reducing the effective interest rate and (2) provides mortgage insurance to the lender. The direct subsidy takes the form of an interest rate reduction thus lowering the buyer's monthly payments. The rates have been administratively set at 4 to 8 percent depending on the market rate.

### *Subsidy Calculations*

Under Section 235, the subsidy fills the gap between a percentage of the household's income and their housing cost. Higher income households, therefore, receive smaller subsidies. The subsidy payment is the difference between the full housing payment, including mortgage principal and interest at the market rate, the FHA mortgage insurance premium, hazard insurance, and property taxes, and 20 percent of the buyer's income.

(market payment + insurance + FHA insurance + taxes) - .20*Y = subsidy

Under Section 235, there is, in effect, a cap on the subsidy as the program will lower the effective interest rate no lower than 4 percent. If this subsidy does not fill the gap between the mortgage payment and 20 percent of the household's income, the household pays the difference. Therefore, the household will be required to contribute more than 20 percent of income if the mortgage payments are sufficiently high. Another way to limit the subsidy is to set a maximum mortgage eligible for the program. A household wanting a higher cost house can make up the difference with a higher downpayment.

### *Income Limits*

Income limits for Section 235 are based on adjusted income rather than gross income. Originally, the limit was 135 percent of the income limit set for eligibility for public housing. Later, the limits were set at percents of median income in the region--80 percent in 1974. In 1976, HUD established a range, according to family size, of 67 for a single person to 119 percent for a family of eight or more. The resulting income limits were significantly higher than those of the rental assistance program.

Assets are not taken into account when determining eligibility; there is no asset limit. A household with a low income and large assets could make a substantial downpayment and take out a mortgage meeting the Section 235 limit, thus qualifying for the subsidy. One exception is that the buyer cannot own another house; this prevents participants from using the loan to subsidize income-generating property.

Income was to be certified once a year but may be recertified at the homeowner's request if the family has suffered a reduction in income. A minimum income was established to ensure that the buyer can meet the monthly payments. Only steady income is used to determine a family's purchasing power.

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### *Down payments*

The program initially required only $200 to become a homeowner. Almost the entire cost of the house was financed. However, the lack of equity in the house meant that families had little incentive to continue to make payments if they become delinquent. Drop-out was costless. In 1975, when the program was revived, families were required to make a downpayments. The minimum investment was 6 percent of the purchase price including closing costs. The requirement was later reduced to 3 percent, which may include the closing costs. A buyer could also reduce the downpayment through his own labor on the house.

### *Assessment*

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Critics of the program argue that the routine costs of maintenance and repair are too much for those of limited income. The program, however, does not target the lowest income groups. Downpayment requirements to insure financial strength of the buyer and the maximum subsidy create a program that targets middle income groups. Additionally, there has been criticism of the equity of the program. With limited resources for the program, not all eligible families can be served. And with the income limits, the program results in those just eligible becoming better off than those just above the income limit (and, therefore, ineligible).

Defenders of the program argue that under the homeowner assistance program the subsidy per family declines, as statistics show that participants report higher incomes when recertified. Mortgage payments are fixed and incomes increase with inflation; many buyers go off the subsidy after several years and new families can be served.

## END OF TERM SUBSIDIES

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In May of 1989, the Housing Development Authority (HDA) of Turkey began to issue dual-indexed mortgages (DIM). The DIM attempts to distribute risk between borrowers and lenders. The loan balance is indexed to a measure of inflation to protect the lender from erosion of the real value of the loan. Payments are indexed to some measure of income, or wage index, in order to maintain the affordability of the loan to the household. In circumstances where real wages are falling, households would not be required to make the full payment of principal; the unpaid portion is capitalized into the outstanding balance. Because the real rate of repayment can vary, the loan term must be flexible to accommodate accelerated real repayments when real wages are rising or shortfalls in the real repayment when real wages is falling. In the case of Turkey, once the maximum term of the loan is reached, outstanding loan balance is forgiven. The result is an end-of-term subsidy to the borrower under the scenario in which real wages are falling.

The terms of the DIM in Turkey are the following: maximum loan amount of TL 11 million; principal indexed to the change in CPI and adjusted semi-annually; no payments made during construction period up to 18 months, with the first payment calculated as 1 - 2.5 percent of the loan depending on the size of the unit; subsequent payments are adjusted semi-annually by multiplying the monthly payment by the change in the wage index; the differential between CPI and the wage index is calculated and the excess amount is capitalized; at the end of the maximum term, any remaining balance is forgiven.

The mechanics of the DIM are demonstrated by the following examples. Under the conditions in Turkey from 1971 to 1980, the following loan would close early--in ten years: a 15-year loan for 40,585 TL at 4 percent; with an annual household income of 14,601 and a 25 percent share of income spent of housing. Real wages were positive for most of the years in the period (See Table 1 and Figure 1). Payments were increasing faster than the adjustments to principal.

Another example illustrates a DIM originating in 1977 in Turkey: a 15-year loan of 169,811 TL at 4 percent; with an annual household income of 61,092 and a 25 percent share of income spent of housing. During the loan period real wages were negative (Table 1 and Figure 1) and the loan does not close in 15 years (Table 2). The policy of forgiving the remaining loan balance after the loan period, i.e. an end-of-term subsidy, would cost 46,912 in real terms--the outstanding balance after 15 years--or 28 percent of the original loan.

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Under the *Basic Housing Program* (BHP) in Chile, the Government contracts for the construction of basic homes of about 28 - 35 square meters, with a maximum cost of 300 UF. Housing is divided into three levels according to cost. Level 1 is the lowest cost housing which a household can apply to purchase, and Level 3 is the highest. The State pays up to 75 percent of the cost; the remainder is financed through participants' savings and a 12-year mortgage carried by the Ministry for Level 1 houses, and private mortgages for Levels 2 and 3.

Beneficiaries are selected through a process in which weights are given for need, family size and the amount of family savings and the length of time in which systematic savings have been deposited. All households applying to the program must open a contract savings account, and priority depend on their savings efforts and the number of years they have been saving. Need is determined by a poverty measurement index which includes among the 30 factors income, apparent wealth, and living conditions. Current living conditions are assigned the greatest weight.

The program has been fairly well targeted. The lowest 30 percent of the income distribution have received 60 percent of the benefits; the middle 30 percent have received 36 percent; and the upper 40 percent have received 12 percent.

Another program, the *Unified Subsidy Program* (USP), provides subsidies to cover a portion of the cost of purchasing a house on the private market. Participants are given a subsidy certificate and have 20 months to locate their own house on the open market. The balance of the price of the house is covered by the savings of the purchaser and a mortgage loan provided on commercial terms through the private housing finance system. Potential participants compete for the subsidies on the basis of the amount of the subsidy requested (higher weights are given for lower subsidies), the amount and regularity of their prior savings, and family size. Those applying for the highest subsidy must be in the bottom 60 percent of the income distribution--having a monthly income of less than 15 UF. The subsidy level declines with higher housing costs.

Following is the schedule of subsidies under the housing programs:

| Program | Cost of House | Gross up-front Subsidy |
|---|---|---|
| Basic Housing Program Level 1 | < 215 | 75% of cost |
| Basic Housing Program Level 2 | 215 - 259 | 56% of cost |
| Basic Housing Program Level 3 | 260 - 300 | 48% of cost |
| Unified Subsidy Program Level 1 | < 400 | 120 - 150 UF |
| Unified Subsidy Program Level 2 | 400 - 900 | 100 - 130 UF |
| Unified Subsidy Program Level 3 | 900 - 2000 | 80 - 110 UF |

The World Bank gives the up-front approach very high marks. Up-front subsidies are easily understood by beneficiaries and legislators. The costs of the program are explicit and no long-term budget commitment is undertaken. The program does not generate contingent liabilities. Additionally, the program is easily administered.

However, in the case of Chile, the World Bank believes the Chilean program could do even better. In particular, the Bank believes that subsidy levels are too high and that resources could be better allocated to serve lower income households. During negotiation with the World Bank on the Structural Adjustment Loan, the Chilean Government agreed to certain modifications of the housing program, such as a yearly reduction in the average subsidy of the USP and inclusion of administrative costs and costs of capital during construction in the unit prices for houses produced under the BHP.

**REFERENCES**

Jacobs, Barry G., Kenneth R. Harney, Charles L. Edson and Bruce S. Lane. 1982. *Guide to Federal Housing Programs.* Washington, D.C.: The Bureau of National Affairs, Inc.

Ravicz, R. Marisol. 1989. "An Overview of the Chilean Housing Market." Urban Institute Report. Washington, D.C.: The Urban Institute.

World Bank. 1989. "Chile Second Housing Sector Project: Staff Appraisal Report." Report No. 7648-CH. Washington, D.C.: World Bank.