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Taxation and Housing: Old Questions, New Answers

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The tax reforms of the 1980's significantly altered tax policy toward housing. Reductions in marginal tax rates lowered the value of tax-exempt imputed income for homeowners, with particularly large changes for high-income individuals whose marginal tax rates fell from 70 percent to just over 30 percent in less than ten years. Millions of taxpayers who had itemized deductions prior to 1986 ceased to itemize and claimed the increased standard deduction after 1986. For these middle-income taxpayers, the tax code's subsidy to homeownership was also reduced.

The tax changes also altered the subsidies for investing in rental property. The 1981 Economic Recovery Tax Act liberalized depreciation provisions for rental property, encouraging rental construction, while the Deficit Reduction Act of 1984 and the Tax Reform Act of 1986 reversed these changes. Much of the traditional wisdom about how the U.S. tax system affects housing markets must be reassessed in light of these tax reforms. This brief paper describes and evaluates the most important recent changes in how tax policy affects housing markets.

I. The Efficiency Costs of Subsidizing Homeownership

The United States is unusual among industrial nations in its generous treatment of homeownership. Homeowners can claim tax deductions for some of their expenses, notably property taxes and mortgage interest, but they are not taxed on their imputed rental income. If the tax code treated homeownership as a business and taxed its real economic profits, the net-of-tax income from owning a home worth P_H with imputed rental value R, for an owner with a marginal tax rate τ, would be

$$(1-\tau)\left[R-\{i+\tau_p+\beta+m+\delta-\pi\}P_H\right].$$

The term in braces is the sum of the owner's interest or forgone equity cost, measured by the interest rate i, property taxes at rate τ_p, a risk premium for housing investments equal to β percent, and maintenance and depreciation costs at rates m and δ, respectively, *less* the owner's nominal capital gain. This expression assumes that house prices appreciate at the overall inflation rate (π). In equilibrium the net income from homeownership must be zero, so

$$(1)\quad R=\left[i+\tau_p+\beta+m+\delta-\pi\right]P_H.$$

The ratio of the imputed rental value to house price, R/P_H, equals the term in brackets, which is known as the *user cost* of owner-occupied housing.

The cost of homeownership under the current U.S. tax system depends upon whether the owner claims itemized deductions. If so, the rental price is

$$(2)\quad R'=\left[(1-\tau)(i+\tau_p)+\beta+m+\delta-\pi\right]P_H$$

$$=R-\tau(i+\tau_p)P_H.$$

The tax system reduces the cost of home-

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ownership, and this effect rises with the nominal interest rate and the household's marginal tax rate. For a nonitemizing household, the rental price depends on the fraction of the property that is debt-financed (α), as well as the parameters considered above. Since nonitemizers cannot claim mortgage-interest deductions, their after-tax cost of borrowing is simply i. The equity they invest in the house, however, would presumably earn $(1-\tau)i$ if invested elsewhere. The rental price is therefore

$$(3)\qquad R'' = \left[(1-\tau)(1-\alpha)i + \alpha i + \beta + \tau_p + m + \delta - \pi\right] P_H = R - \tau(1-\alpha) i P_H$$

which is higher if α is small. A nonitemizing homeowner using all-debt financing receives no tax subsidy.

The tax-induced distortions in the rental price of owner-occupied housing for those who itemize have declined during the last decade as a result of reductions in marginal tax rates and nominal interest rates. Table 1 illustrates this by describing the user costs in 1980 and 1990 for taxpayers at three points in the 1990 income distribution. For an itemizing household near the median of the income distribution, with a 1990 income of $30,000 and a federal marginal tax rate of 15 percent, the real user cost was 13.3 percent in 1990, compared with 10.6 percent a decade earlier. Most of the increase in this household's user cost is due to rising real interest rates, not changes in tax policy. This household faced a federal marginal tax rate of 18 percent in 1980, compared with 15 percent in 1990. For a household with very high income, one with a 1990 income of $250,000, the increase in the real user cost was much larger, and it was largely due to tax changes. The user cost rose from 4.3 percent in 1980 to 11.6 percent in 1990, as the household's marginal tax rate declined from 59 percent (1980) to 28 percent (1990).

The last column of Table 1 shows that real user costs would have increased in the 1980's even if the tax code applied to true economic income. This user cost rose from 13.3 percent to 15.1 percent during the decade. Comparing the user cost under the economic income tax with that under the actual tax rules shows that the distortion in user costs was larger at the beginning of the decade than the end, and it was larger for high-income than for low-income households throughout the period.

TABLE 1—USER COSTS AND DEADWEIGHT LOSSES FOR ITEMIZING HOMEOWNERS, 1980–1990

Variable	Actual tax code for taxpayer with 1990 economic income of: $30,000	$50,000	$250,000	Economic income tax
User cost (percentage):				
1980	10.6	9.7	4.3	13.3
1985	13.1	11.8	8.4	15.4
1990	13.3	11.6	11.6	15.1
Uncompensated increase in housing demand (percentage):				
1980	20.8	27.6	67.8	—
1985	14.8	23.1	45.3	—
1990	12.4	23.2	23.2	—
Deadweight loss (1990 dollars):				
1980	137	404	12,262	—
1985	81	326	6,314	—
1990	53	326	1,631	—

Source: User-cost calculations assume that each taxpayer itemizes, and they implement equation (1) from the text, assuming $\tau_p = 0.025$, $\beta = 0.04$, and $\delta = m = 0.02$; π is the five-year average of the CPI inflation rate, and i is the average commitment rate on new fixed-interest mortgages. Deadweight-loss calculations assume that, absent tax distortions, each taxpayer would purchase a home worth twice annual income.

These user-cost disparities distort household behavior and underly the traditional public-finance analysis of the deadweight loss (DWL) from the tax treatment of owner-occupied housing (see Harvey Rosen, 1979). Consensus estimates (see Rosen, 1985) suggest an uncompensated price elasticity (η) of about -1.0 and an income elasticity (σ) of roughly 0.75 for owner-occupied housing. The compensated demand elasticity (ε), which determines the DWL, is given by $\varepsilon = \eta + w\sigma$, where w is the good's budget share. Assuming that

housing outlays account for one quarter of the typical household's budget, the compensated elasticity is roughly -0.8. I use this to evaluate

$$(4) \qquad \mathrm{DWL} = 0.5\varepsilon RH(dR)^2$$

where H is the quantity of housing consumed and R is defined in (1).

The second and third panels of Table 1 illustrate the behavioral distortions from the tax treatment of homeownership. The second panel reports the increase in housing demand that results from the user-cost distortion. If the price elasticity of demand is -1.0 for the household with \$250,000 income, the tax system encouraged an astonishing 68 percent (uncompensated) increase in housing consumption in 1980, compared with only a 23 percent increase in 1990. For households with 1990 incomes of \$30,000 and \$50,000, the tax-induced increases in housing demand are smaller: 12 percent and 23 percent respectively. The 1990 DWL estimates, shown in the final panel, range from \$53 for the household with an income of \$30,000, to \$1,631 for the household with an income of \$250,000. For all three households, the DWL is smaller in 1990 than in 1980. This effect is particularly evident for the highest-income household.

The 1980 calculation may overestimate the actual distortion in the high-income household's behavior. First, households may have assumed that user costs were transitorily low and may have raised housing consumption less than they would have if these changes were expected to persist. Second, the price elasticity of demand may vary across households. Rosen (1979) estimated the uncompensated elasticity to be a declining function of income, although his specification had the drawback of implying a positive own-price elasticity for households with very high income. The central conclusion from Table 1 is that *even for households that itemize* the efficiency costs of the tax treatment of owner-occupied housing are smaller now than a decade ago.

II. The Distribution of Homeownership Subsidies

The Tax Reform Act of 1986 raised the standard deduction for U.S. taxpayers. For a married joint filer, for example, the deduction rose from \$3,670 in 1986 to \$5,000 in 1988. One result of this change was a decline in the number of taxpayers who itemized their tax deductions and an associated shift in the distribution of the benefits of the mortgage-interest deduction and many other tax expenditures.

Aggregate statistics on the number of taxpayers claiming mortgage-interest deductions illustrate this point. In 1985, home-mortgage-interest deductions were claimed on 28.1 million tax returns. For 1991, however, the Joint Committee on Taxation (1991) projects that only 24.1 million returns will claim these deductions, even though the number of taxpayers who own homes has grown by several million during this period. For low- and middle-income taxpayers whose marginal tax rates were not significantly affected by the tax reforms of the 1980's, the switch from being an itemizer to claiming the standard deduction is the largest effect of tax reform on homeownership costs. For more than half of all homeowners, the tax incentives are now summarized by equation (3) rather than the more traditional equation (2).

Table 2 shows the distribution of the revenue losses (tax expenditures) from the mortgage-interest deduction in 1986, before the Tax Reform Act of 1986 took effect, and in 1988. Two patterns emerge. First, most of the benefits of the mortgage-interest deduction accrue to high-income taxpayers. The pattern of mortgage-interest deductions is substantially less equal than the income distribution. In 1988, *more than half* of the tax saving from the mortgage interest deduction accrued to the 8.5 percent of tax returns with the highest economic incomes. Only one-third of the tax saving accrued to taxpayers with economic incomes below \$50,000. By comparison, the top 8.5 percent of taxpayers received 35 percent of the income, while those with incomes below

TABLE 2—DISTRIBUTION OF MORTGAGE INTEREST TAX EXPENDITURES, 1986 AND 1988

1988 economic income ($1,000's)	Cumulative percentage of: Tax returns	Mortgage interest deduction	Economic income	Percentage of taxpayers claiming mortgage interest
A. 1986:				
< 5	14.2	0.7	0.4	1.9
5–10	27.0	1.1	3.5	3.4
10–20	50.3	3.3	14.8	10.3
20–30	66.3	9.9	27.8	27.1
30–40	78.1	22.3	41.3	47.2
40–50	86.1	37.7	53.0	63.2
50–60	91.1	51.5	62.0	70.1
60–70	93.9	61.8	68.0	74.4
70–80	95.7	69.8	72.2	76.9
80–90	96.8	75.2	75.3	73.7
90–100	97.4	79.2	77.3	75.5
100–150	98.8	89.4	82.8	72.0
150–250	99.5	95.5	87.2	69.8
B. 1988:				
< 5	15.9	0.9	0.9	1.7
5–10	28.7	1.3	4.2	2.1
10–20	51.8	3.2	16.2	6.9
20–30	67.7	9.0	29.9	20.0
30–40	78.9	19.2	43.5	39.8
40–50	86.9	33.2	55.9	55.7
50–60	91.5	47.3	64.8	66.9
60–70	94.3	58.8	71.1	74.1
70–80	95.9	67.0	75.3	76.6
80–90	97.0	72.5	78.3	74.4
90–100	97.6	77.0	80.5	77.1
100–150	98.9	87.8	86.0	75.2
150–250	99.6	94.2	90.0	73.7

Source: Author's tabulations using the NBER TAXSIM model for 1986 and 1988. Economic income equals adjusted gross income plus tax-deductible retirement and IRA contributions, the excluded component of capital-gains income and business losses, and the deduction for a dual-earner married couple (1986).

$50,000 reported 56 percent of economic income. Second, the benefits of the mortgage deduction became more unequal as a result of the Tax Reform Act of 1986. Among taxpayers with incomes of $30,000–40,000 (in 1988 dollars), for example, 47.2 percent claimed mortgage-interest deductions in 1986, compared with only 39.8 percent in 1988. The incidence of the mortgage-interest deduction was lower in 1988 than in 1986 for taxpayers with economic incomes below $80,000; at higher incomes, the incidence of this deduction actually increased.

Despite the declining incidence of itemization, the tax cost of the mortgage-interest deduction has not fallen since 1986. This is largely the result of a rapid increase in home-mortgage debt. The aggregate value of home mortgages rose from $1.44 trillion (42 percent of the value of the owner-occupied housing stock) in 1985 to $2.69 trillion (58 percent) at the beginning of 1991 (see Board of Governors of the Federal Reserve System, 1991). This increase is partly due to increased use of second mortgages and home-equity debt, which have become more attractive since the 1986 Tax Reform Act restricted interest deductions on consumer credit.

The decline in itemization has affected the distribution of benefits from the mortgage-interest deduction. Falling itemization also affects the deadweight-loss calculations of the previous section, since the discrepancy between the actual and true economic user cost of homeownership is smaller if a given household does not itemize than if it does. This trend reinforces the falling deadweight burden of the tax treatment of homeownership.

III. Tax Incentives for Rental Housing Investment

A complete analysis of the housing market must recognize that the tax system provides incentives for construction of rental housing as well as owner-occupied homes. Finding the ultimate behavioral effects requires careful study of how tax parameters affect each household's decision of whether to rent or own as well as the decision of how much housing to consume conditional on tenure. Changes in the tax treatment of rental property can have important effects on the long-run stock of housing and on the fraction of the population who own homes.

The key tax provisions affecting rental investments are depreciation lifetimes, capital-gains tax rates, and the passive-loss provisions which allow investors in rental projects to use losses from these projects to offset other income. The Economic Recov-

ery Tax Act of 1981 shortened the tax lifetime for residential rental property from 32 to 15 years. These generous depreciation rules made it possible to construct highly levered tax-shelter rental projects in which landlords would break even, even if rents were relatively low. This reduced the equilibrium level of market rents and partly offset the tax incentives for households to own rather than rent their homes.

The 1986 Tax Reform Act changed many tax policy parameters with the common effect of reducing the incentive for investing in rental properties. It extended the depreciation lifetime for rental structures to 27.5 years, required straight-line depreciation rather than more accelerated 175-percent declining balance, limited passive-loss offsets, and eliminated the gap between statutory capital-gains tax rates and the tax rates on other income.

Numerous studies have tried to calculate the effect of the 1986 tax change on landlords' break-even rental income (see James Follain et al., 1987). Most agree that in the long run, the 1986 Tax Reform Act will lead to higher rents; my estimates (Poterba, 1990) suggest a steady-state increase of between 10 and 15 percent. These rent changes could more than offset the reduced tax benefits of homeownership for some middle-income households, making the recent tax reform pro-homeownership at some income levels. Follain and David C. Ling (1991) examine this issue in more detail.

The early evidence on rental construction since 1986 supports the view that investing in rental housing has become less attractive. Multifamily housing starts, which ranged between 300,000–400,000 units annually prior to the 1981 tax reform and peaked at 515,000 units in 1985, fell sharply after the 1986 Tax Reform Act. Starts were 241,000 in 1990 and only 140,000 in 1991. Despite the decline in rental construction, real rents have increased by less than 2 percent since 1986. This increase is much smaller than the 2-percent/year increase in the four years leading up to the 1986 reform, when rental construction boomed. The slow increase is widely attributed to the lagged effects of substantial overbuilding in the early 1980's and the weak national economy of the last two years. The rental vacancy rate for apartment buildings with more than five units, which was 8.8 percent in 1985 and 10.4 percent in 1986, rose to 11.4 percent in 1988 and was over 10 percent in 1991. Of course, it is somewhat inconsistent to cite the decline in new construction as evidence for the effects of tax policy, while attributing the slow rise in rents to other factors which could also discourage construction.

The difficulty in identifying the partial effects of the Tax Reform Act on rental construction highlights the absence of an empirical model for the dynamics of the rental housing market. Such a model is crucial to assess how tax changes affect rents, which in turn affect rental housing demand and, ultimately, tenure choice.

IV. Emerging Issues

The "representative study" of tax policy and housing markets considers the long-run effects of tax changes in a model with an imperfection-free housing market. The most promising avenues for future work involve shifting the research focus to housing market dynamics and to the analysis of imperfect markets. In the short run, tax policy changes should affect the asset prices of homes and rental properties. While the theory underlying these effects is relatively standard (see Poterba, 1984, 1991), there is relatively little evidence on the quantitive effect of tax policy changes on home prices or the value of rental properties. Rich data sets on individual housing transactions should be used to calibrate models of short-run house-price dynamics and to explore the potentially important links between tax policy and the housing wealth of existing homeowners. Documenting asset-price effects in the markets for rental properties or office buildings is also important. If such effects are present, the 1986 tax reform could have contributed to the weak balance sheets of many thrifts and financial institutions.

A second set of research issues involves the interaction between tax policies and other market imperfections, particularly in

financial markets. Examples include the interaction between favorable tax incentives for homeownership and the down-payment requirements for house purchase that financial institutions typically impose, presumably because of asymmetric information in the credit market, and the absence of markets to diversify the idiosyncratic risk of house purchase. If down-payment constraints preclude some households from becoming owners, they may blunt the tenure-choice distortions that would otherwise follow from the tax system. Households may distort their behavior in other ways, however, in an effort to relax these constraints. Gary Engelhardt's (1992) study of the consumption patterns of young, particularly low-income, home buyers suggests that they depress consumption while renting to accumulate a downpayment, hence distorting their lifetime consumption profile. James Berkovec and Don Fullerton's (1992) work suggests that the absence of complete markets for risk-bearing can generate important welfare effects from government tax policies toward housing. Since tax policies are likely to have larger welfare effects in markets with preexisting distortions than in otherwise perfect markets, these effects deserve careful exploration.

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