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Whose Shortage of Affordable Housing?

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Abstract

Shortfalls of low-rent units are repeatedly cited as the rationale for programs to expand the supply of affordable housing. But the poverty-level rents studied fall well below those of major supply programs. To reassess whether HOME and the low-income housing tax credit (LIHTC) address actual shortfalls, this article compares numbers of units with renters by measuring both affordability and incomes with the median-income-based metric used for all federal rental programs.

During the 1980s, there were growing *surpluses* of units affordable to renters with incomes between 50 and 80 percent of their area's median income, a "low-income" range that includes most HOME and LIHTC rents. By contrast, shortages were severe and growing only at rents affordable to households with incomes below 30 percent of area median. Examination of these shortfalls and the problems they create implies that programs to expand supply are *not* widely needed.

Introduction

A key perception motivating current debates about housing policy (Apgar 1990; Apgar et al. 1991; Steinbach 1992; U.S. Conference of Mayors 1993) and recent housing legislation is that growing shortfalls of affordable rental housing imply that efforts to increase the supply of such housing are essential to solve the low-income housing crisis. A recent Senate report characterized the affordable rental housing shortage as follows:

> Since the 1970's, there has been a substantial reduction in the number of low rent units in the housing stock and a sharp increase in the number of poor families. The result is a classic mismatch between supply and demand, leading to higher rents, higher rent burdens, increased overcrowding, increased evictions and increased homelessness. (U.S. Congress 1992, 8)

In 1990, Congress cited this mismatch in creating a major new supply-side housing program, HOME, finding that "there is need to . . . expand the supply of rental housing that is

affordable to very low income and low-income families . . ." (National Affordable Housing Act of 1990, Public Law 101-625, Section 202). Reauthorizing HOME in 1992, the Senate similarly cited both HOME and the low-income housing tax credit (LIHTC) as necessary responses to the worsening mismatch between lower renter incomes and higher rents. A Senate report accompanying the reauthorization described HOME as "the key program for expanding the supply of affordable housing" and stated that prior to HOME, the LIHTC was "the only viable federal vehicle for the production of new affordable multifamily housing" (U.S. Congress 1992, 32).

However, as this article demonstrates, the "shortages," "mismatches," or "gaps" with which decision-makers should be concerned are concentrated and growing at rents less than half those deemed affordable under HOME or the LIHTC. In the absence of additional subsidies, HOME and the LIHTC supply housing with rents at or above the middle quintile of the rent distribution. Under both programs, affordable rents are defined as those not exceeding 30 percent of some proportion of an area's adjusted median family income—30 percent of 65 percent of median income for HOME or 30 percent of 60 percent for the LIHTC. Relationships between median income and typical private-market rents vary from place to place, but nowhere are these HOME or LIHTC median-income-based rents particularly low.

Commonly cited evidence of a mismatch, by contrast, has examined demand and supply in the bottom quartile of the rent distribution, most often comparing the number of poor renters with the number of units affordable to them.[1] Reductions since 1970 in the supply of "low-rent" housing have typically been documented by tracking numbers of units with rents below constant-dollar cutoffs—recently $250 or $300 in 1989 dollars—that approximate rents affordable at 30 percent of income to families at poverty thresholds (Joint Center for Housing Studies 1992; Lazere et al. 1991; National Housing Task Force [NHTF] 1988).[2]

[1] Dolbeare (1991) used a different method of comparing the number of low-income renters with the number of units they can afford. She determined the income defining the bottom quartile of the income distribution of renters in each year and compared numbers of lowest quartile renters with numbers of units renting below 30 percent of that income.

[2] Harvard's Joint Center for Housing Studies has regularly examined changes in low-rent units. The evidence cited by the Senate about the 1974–89 drop in unsubsidized units, for example, referred to rents of $250 or $300 per month in 1989 dollars (Apgar et al. 1991). These cutoffs approximate rents affordable at 30 percent of income to three- or four-person families at the national

But in 1989, a monthly rent of $250 was less than half of the average LIHTC ceiling for a two-bedroom unit.

The width of the discrepancies between the rents tracked by past studies and the much higher rents allowable under HOME and the LIHTC is not obvious. Not only are the statutory HOME and LIHTC definitions of "affordable" rents complex, but the terms "low income" and "low rent" are often used imprecisely. However, since "the likelihood and severity of housing problems vary sharply with income, so that the very poorest households . . . have by far the most pervasive and serious problems" (Nelson and Khadduri 1992, 50), rents affordable to those with incomes near 60 percent of area median are completely unaffordable to the much poorer families and individuals who are most severely in need of housing assistance.

To evaluate the implications for affordable housing programs of these wide differences between typical program rents and the rents for which shortages have been documented, this article measures both rents and incomes in the terms used by today's major federal rental housing programs to assess which ranges have housing shortages. National and regional distributions of renter households by income and units by rent are each estimated as percents of area median family incomes, as defined and adjusted by the U.S. Department of Housing and Urban Development (HUD). Cutoffs expressed as percents of adjusted area median income have been used since 1974 to determine income eligibility for federal housing programs, and they are also used to define rents qualifying as affordable under HOME or the LIHTC. Yet supplies of rental housing have seldom been directly compared with numbers of renter households in these terms, because the official cutoffs vary by size of household or unit, as well as with location, and thus are more difficult to analyze than constant-dollar rents.[3]

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poverty thresholds. In 1989, the national weighted poverty threshold for a three-person family was $9,885 and the average threshold for a four-person family was $12,674. At 30 percent of income, "affordable" monthly rents would be $247 or $317.

[3] Lazere et al. (1991, 4) note that their "low-income" cutoff of $10,000 in 1989 dollars was chosen because HUD's official low-income cutoffs of 80 percent of area median, which vary with location and family size, cannot be measured with published data. However, since the 1989 U.S. median family income was $34,213, the cutoff Lazere et al. examined was, on average, closer to 30 percent than to 80 percent of median. Data unavailability should now be less of an issue. Special tabulations using HUD's official income cutoffs for each county were prepared from 1990 census data for all states and counties and most jurisdictions in the United States and disseminated in 1993 for use

The article begins by carefully distinguishing the complicated official program definitions of low-income and very low income renters from the more familiar concept of poverty and by relating program definitions of "affordable" rents to those income levels. The following section reviews the evidence of shortages most commonly cited in support of HOME and the LIHTC.

The remaining sections of the article examine Annual Housing Survey and American Housing Survey (AHS)[4] data to reassess whether shortages exist that require expanding supplies of rental housing through HOME and the LIHTC. The following questions are answered:

1. Are there shortages of rental housing affordable to very low income and low-income families? At what income and rent ranges are shortages of units relative to renters greatest? Are HOME and the LIHTC targeted toward the rent ranges with shortages?

2. Did shortages worsen between 1979 and 1989?

3. To what extent have shortages and changes therein varied across regions?

4. Should shortages per se be interpreted as evidence of a need to expand the stock of affordable housing? Do regional vacancy rates confirm that housing affordable to very low income and low-income families is unavailable?

5. To what extent can shortages of units relative to renters be taken as a count of the number of households that need other housing units, rather than assistance in affording the rent of their present units?

The analysis demonstrates that HOME and the LIHTC are not likely to provide the low-rent units that are in short supply. Nationally and regionally, serious shortages of units during the 1980s were concentrated and growing at rents far below those

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in developing comprehensive housing affordability strategies (CHAS). The county and city data most needed for CHAS preparation were published in Comprehensive Housing Affordability Strategy Databooks for each state, and all of the special tabulations are available from the Census Bureau on CD-ROM as the Comprehensive Housing Affordability Strategy Database.

[4] The American Housing Survey, called the Annual Housing Survey before its redesign in 1984, is produced by the Bureau of the Census with funding from HUD. National data are published in Current Housing Reports, series H-150.

supplied by HOME and the LIHTC. Even more fundamental, arithmetic shortages of low-rent units relative to renters cannot be assumed to necessitate additions to supply. Although shortfalls of units seem related to actual housing problems among low-income renters, fewer than one-fifth of the lowest income casualties of low-rent shortages need other housing. Instead, most could be aided in place through tenant-based assistance.

These results imply that tenant-based assistance, if greatly expanded, could meet most priority needs for rental assistance. This inference, however, underscores the need to consider "whether local market conditions are conducive to a more deeply targeted voucher-oriented . . . low-income housing policy" (Stegman 1992, 62). Because addressing this question requires consideration of fair market rents (FMRs), a second article will examine regional and metropolitan needs for supply programs to provide the units in short supply and/or units with rents below FMR indirectly. Together, the two articles imply that rather than meeting serious needs, HOME and the LIHTC often supply not only housing that is unaffordable to those who most need other units, but—in many markets—housing that is not needed by those who could afford it without further subsidies.

The article concludes with a discussion of the implications of these findings for policies and programs to reduce serious housing problems. As the next section details, one fundamental implication of these results for both analysts and policy makers is painfully clear: Misperceptions about shortages, and the resulting inappropriate targeting of most "affordable" housing programs, can often be attributed to imprecise use of basic terminology.

Definitions of low–income renters and affordable rents

Poor renters, very low income renters, and low-income renters

Careful definition of terms is essential in this article because "low income" and "poor" are all too often used as synonyms in discussions of housing policy.[5] But "low-income" renters are

[5] This practice was evident in the 1990 Fannie Mae Annual Housing Conference, "Preserving Low-Income Housing Opportunities." Listokin (1991) notes that he uses "low income" in a general rather than a programmatic sense, and Sternlieb and Hughes (1991) and Apgar (1991) introduce trends in low-income housing by examining housing affordable to the poor. Struyk (1991)

typically not "poor": HUD's limits for "low income" and "very low income" are each markedly higher than official poverty thresholds and therefore include many more households. In 1989, when 13.2 percent of American households had incomes below poverty level, some 21 percent of households had very low incomes as defined for HUD's rental programs, and more than 38 percent had low incomes (HUD 1991, table 1).[6]

Poverty is the better known—although frequently criticized—concept (Ruggles 1990). Poverty thresholds were first defined in the early 1960s on the basis of minimally adequate food budgets and some survey evidence that food expenditures absorbed one-third of income. Thresholds of family income vary with family size and age of members, but not with location. The size-specific cutoffs have been updated annually to reflect changes in inflation, and estimates of the population with incomes below poverty level and of poverty rates among different groups have been published annually since 1967.

To better account for geographical variations in cost of housing, in 1974 Congress defined "low income" and "very low income" for HUD's Section 8 rental assistance programs and public housing as incomes not exceeding 80 and 50 percent, respectively, of the area median family income, as adjusted by HUD.[7] HUD has

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cites HUD's programmatic definitions of very low income and low-income households but estimates the numbers of units affordable to this group by units affordable at poverty thresholds.

[6] The numbers of households below poverty level reported in AHS publications (U.S. Bureau of the Census 1991, app. 18) differ from official poverty estimates because they compare household income against official poverty thresholds for household size. Official poverty estimates (Current Population Survey, series P-60) instead compare family or individual income with poverty thresholds for families by size. To emphasize that AHS counts of households below poverty level differ from official estimates of families and individuals, the Census Bureau labels households below poverty level "low income" in special Current Housing Reports based on AHS data. Unfortunately, this approach further muddies distinctions between poverty and HUD's official "low income" definitions.

[7] These definitions are found in the U.S. Housing Act of 1937, Section 3(b)(2). Statutory adjustments now include upper and lower caps for areas with low or high ratios of housing costs to income, and for each nonmetropolitan county they raise the income threshold to the state's nonmetropolitan average. The process of defining the official cutoffs starts from an annual estimate of area median family income, on which, after statutory adjustments, the "50 percent" and "80 percent" cutoffs are based. Each base income cutoff is assigned to a household of four. Household size adjustments, which are smaller per person than those used in defining poverty, range from 70 percent of base for a one-person household to 132 percent of base for an eight-person household.

since published annually both its estimates of median family income and its official low-income and very low income cutoffs for each metropolitan statistical area (MSA) and nonmetropolitan county.[8]

To provide a common basis for comparison, official definitions of very low income, low-income, and moderate-income renters are ranked in table 1 as percentages of HUD's adjusted area median family income (HAMFI). Poverty thresholds and rents, which do not vary by location, are related to HUD's area-specific medians by comparing the weighted four-person and three-person poverty thresholds with the national average HAMFI of $34,800.[9] The 1989 weighted poverty threshold of $12,674 for a family of four approximates only 36 percent of HAMFI. Thus, the very low income (50 percent of HAMFI) cutoffs are some one and one-half times poverty thresholds on average, and the low-income (80 percent of HAMFI) cutoffs are more than twice poverty levels.[10]

Although these official definitions of "low income" and "very low income" for assisted housing programs are the ones most commonly used, Congress has, regrettably, defined these terms to refer to *different* percent-of-median cutoffs for other HUD programs. This inconsistency is of long standing: The same Housing and Community Development Act of 1974 that originally defined the low cutoff as 80 percent and the very low cutoff as 50 percent for assisted housing also defined families with incomes below 80 percent of area median as "moderate income" and those with incomes below 50 percent of area median as "low income" for the Community Development Block Grant program. The confusion was compounded in 1992, when very low income was defined as

[8] Very low income cutoffs for a four-person household vary across the country from 33 to 90 percent of the national median family income.

[9] In 1989, when the actual median family income for the United States was $34,213, the national average of $34,800 estimated from the AHS for HUD's area-specific adjusted median family income limits was higher because of HUD's adjustments. The acronym HAMFI was coined for the CHAS special tabulations of 1990 census data to emphasize that HUD's official income limits differ from unadjusted percentages of area median family income, and it will be repeated ad nauseam in this article for the same reason.

[10] Because poverty thresholds do not vary across the country, they do vary markedly in relation to HUD's low- and very low income standards. Moreover, because HUD's adjustments for household size vary less per person than the family-size adjustments used in defining poverty, the "average ratio of the very low income cutoff to the poverty threshold ranges from 1.93 for a single-person household to 1.19 for a six-person household" (Bogdon, Silver, and Turner 1994, 27). In some locations, one-person households with income as high as 3.6 times the poverty threshold qualify as very low income.

Table 1. **Definitions of Lower Income Renters and Affordable Rents Expressed as Percent of HAMFI, 1989**

Income Definition	Percent HAMFI	U.S. Average	Rent Definition[a]
	100	$34,800	Upper limit of rent levels "affordable to low- and moderate-income renters" for government-sponsored enterprises (GSEs)[b]
Upper limit of "moderate income" under Section 235, Section 221(d)(3), below-market interest rate, Low-Income Housing Preservation and Resident Ownership Act, and National Homeownership Trust	95		
HUD "low-income" upper limit for public housing and rental assistance programs; "moderate-income" limit for Community Development Block Grant (CDBG) program	80		
	65		HOME rents must be lesser of 30% of 65% of HAMFI or fair market rent (FMR); affordable rent for Resolution Trust Corporation multifamily rental
	63[c,d]	$490	U.S. average monthly FMR for two bedrooms
Income limit for 90% of HOME renters; "very low income" limit for GSEs	60		Affordable rent limit for low-income housing tax credit[b]

Table 1. **Definitions of Lower Income Renters and Affordable Rents Expressed as Percent of HAMFI, 1989** *(continued)*

Income Definition	Percent HAMFI	U.S. Average	Rent Definition[a]
HUD "very low income" upper limit for public housing and rental assistance, and for "low-income persons" for CDBG program	50		
Poverty threshold for four-person family	36[d]	$12,674	
		$317	Monthly rent at four-person poverty threshold
Poverty threshold for three-person family	32[c,d]	$9,885	
		$247	Monthly rent at three-person poverty threshold
Upper limit of "extremely low income" category in Comprehensive Housing Affordability Strategy Database	30		

[a] Rents are considered "affordable" at 30 percent of income.
[b] HAMFI-based rents adjusted for number of bedrooms.
[c] Estimated relation to HAMFI includes 90 percent adjustment factor for two bedrooms or three-person family.
[d] Approximate relationship to 1989 U.S. average HAMFI ($34,800).

60 percent of median family income for government-sponsored enterprises (GSEs).[11] The HAMFI cutoff for moderate incomes also varies across HUD programs (see table 1).[12]

Unless otherwise specified, this article uses the following terms from table 1: "Very low" incomes are those not exceeding 50 percent of HAMFI, and "low" incomes are those not exceeding 80 percent of HAMFI. Following Bogdon, Silver, and Turner (1994) and HUD (1994), "extremely low" incomes are those below 30 percent of HAMFI.

Low-rent units and affordable rents

Reflecting the confusion of income definitions, rents "affordable to very low income and low-income families" are also often defined imprecisely. Between 1968 and 1981, tenants in public housing contributed up to 25 percent of their income toward rent, a share that was increased to 30 percent in 1981. Because of this change, the current convention is that gross rents not exceeding 30 percent of an income level are affordable to families at that income.[13] Rents affordable to very low income families accordingly fall below 30 percent of 50 percent of HAMFI.[14]

[11] The GSEs are Fannie Mae and Freddie Mac, both congressionally chartered, privately owned secondary home mortgage market corporations. The GSE definition of very low income has the further complication of varying by tenure. As defined in the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, for renters it refers to "income not in excess of 60 percent of area median income, with adjustments for smaller and larger families," but for owner-occupants it refers to *unadjusted* income below 60 percent of area median income. Increasingly, HUD's income limits are also used for housing programs administered by other departments and agencies. In addition to the LIHTC and tax-exempt rental housing bonds under the Treasury and the Farmers Home Loan programs of the U.S. Department of Agriculture, income limits defined in relation to HAMFI are used for programs of the Resolution Trust Corporation and Federal Housing Finance Board.

[12] Table 1 does not include all programs. For some programs in some locations, moderate incomes range as high as 140 percent of area median family income.

[13] As Stone (1990) and Nelson and Redburn (1994) document, contributions of 30 percent of income for rent leave many poor, large families with insufficient income for other basic expenses. The Rouse-Maxwell Commission also recommended a more flexible definition of reasonable rent burden: "To more closely reflect tenants' ability to pay, the Task Force recommends that Congress consider requiring a sliding scale of rent payments based upon family size and income" (National Housing Task Force 1988, 23).

[14] No legislation specifically defines rents affordable to very low income renters for a HUD rental housing program. But the Affordable Housing

The LIHTC and HOME explicitly define affordable rents in relation to HAMFI. Under the LIHTC, housing units with rents up to 30 percent of 60 percent of HAMFI qualify as affordable and eligible for the credit.[15] Unless they have additional subsidies, LIHTC occupants must have incomes between 40 and 60 percent of the median to avoid severe rent burdens,[16] and research shows that families who occupy such units do have incomes in that range (ICF 1991). For HOME, rents as high as 30 percent of 65 percent of HAMFI count as affordable, although qualifying rents must be the lesser of that level or local FMRs.[17] On average, FMRs fall between the LIHTC and HOME ceilings: The average U.S. two-bedroom FMR was $490 in 1989, a monthly rent affordable at 30 percent of income to a three-person household with average income near 63 percent of HAMFI (after applying the 90 percent adjustment for two-bedroom units).

The highest rents now officially affordable are those defined as "affordable to low and moderate income families" under the 1992 legislation specifying HUD's responsibilities for setting and monitoring affordable housing goals for the GSEs. Rents up to 30 percent of 100 percent of HAMFI qualify.

Program of the Federal Housing Finance Board requires that 20 percent of rental units have rents affordable at the very low income cutoff, and the Affordable Housing Program of the Resolution Trust Corporation requires that at least 20 percent of units in multifamily properties be affordable to tenants with incomes not exceeding 50 percent of area median income.

[15] Further adjustments to the 60 percent of HAMFI rent limits vary with number of bedrooms: no bedrooms, 70 percent of the base; one bedroom, 75 percent; two bedrooms, 90 percent; three bedrooms, 104 percent; four bedrooms, 112 percent. This formula, which is codified at U.S.C. 42(g)(2)(C), assumes that an efficiency houses 1 person, a one-bedroom unit houses 1.5 persons, and each additional bedroom can house another 1.5 persons. Because LIHTC rent limits need not count a demand-side subsidy such as Section 8 vouchers, total revenue from rents qualifying as affordable may well exceed 30 percent of 60 percent of HAMFI. More than three-fifths of LIHTC projects received an additional federal, state, or local subsidy (Stegman 1991, 369).

[16] Assuming that the unit rent is set at the maximum (i.e., 30 percent of 60 percent of HAMFI), then households with incomes between 40 and 60 percent of HAMFI will have rent-to-income ratios between 30 and 45 percent. A severe rent burden is defined as a rent-to-income ratio of 50 percent or larger.

[17] FMRs are based on the 45th percentile of the rent distribution for recently rented, unsubsidized, modest two-bedroom units. Like official income limits, FMRs are set annually by HUD for each MSA and nonmetropolitan county. FMRs for smaller and larger units are set as fixed ratios of the two-bedroom FMR.

Program definitions of rents affordable to very low, low-, or moderate-income families thus range from 30 percent of 50 percent of HAMFI all the way up to 30 percent of the area median. In the past, however, as the next section illustrates, when the term "low rent" has been defined exactly rather than used generally, it has most often referred to rents below 30 percent of the poverty threshold for a three- or four-person family. But just as poverty is typically well below the very low income threshold, so too in 1989 were rents of $250 or $300 well below rents affordable to very low income families at 50 percent of HAMFI.

Past evidence of shortfalls of low-rent units

Shortages of low-rent housing have been tracked in several studies (e.g., Apgar et al. 1991; Clay 1987; Dolbeare 1991), but the evidence most influential in developing HOME was that published by the Rouse-Maxwell National Housing Task Force in *A Decent Place to Live* (NHTF 1988). In 1992, the Enterprise Foundation reviewed more recent data and reiterated the need for HOME and the LIHTC in *A Decent Place to Live, Revisited* (Steinbach 1992).

The NHTF compared numbers of occupied units with rents below $250 and numbers of renters with income below $10,000 for the years 1973 to 1983, with both cutoffs in constant 1983 dollars.[18] Numbers of renters with income below $10,000 "outstripped the supply theoretically available to them" by almost 2 million in 1983, whereas in 1973 there had been almost 4 million more units than renters.[19] This evidence of dwindling supply, together with sharply increasing rent burdens among the poor, led the NHTF to recommend the creation of a housing opportunity program (the model for HOME) to provide affordable housing,

[18] The 1983 average poverty threshold for a four-person family was $10,178.

[19] These estimates of units and renters were "eyeballed" from an unlabeled graph (NHTF 1988, 7), and definitions were inferred by comparing the graph's numbers with published AHS data. The NHTF report does not detail its estimation procedures, but it apparently somewhat overstates losses in low-rent units. A comparison of published AHS data on current-dollar gross rent distributions against the NHTF estimates for rents below $250 in 1983 dollars implies that the NHTF deflated rents by the Consumer Price Index (CPI) for residential rents, whereas incomes were deflated with the CPI for all items. Because comparisons of rents against incomes should show how many units are theoretically affordable at or below 30 percent of income, the same inflation index should be used for both incomes and rents.

the preservation of existing low-income housing, and rental assistance to complement production and preservation efforts.[20]

Steinbach's renewed call for expanded supply was based on a more recent comparison between renters and units they could afford (Lazere et al. 1991). At Lazere et al.'s lower cutoffs of rents below $250 and incomes below $10,000 in 1989 dollars,[21] units had barely outnumbered renters even in 1970. By 1989 there were only 5.6 million units nationally for the 9.6 million renters needing them.[22] Steinbach explicitly rejected arguments that "the market itself will cause the [significant oversupply of high-income housing built during the 1980s] to 'trickle down' to lower-income people" (1992, 9). Instead, she adduced this 4-million-unit "gap between the supply of inexpensive housing and the demand for it" as the basis for recommendations to fund HOME fully and to reauthorize the LIHTC in order to "expand the rehabilitation and construction of housing targeted for low-income households."

The poverty-level cutoffs examined by the NHTF and Lazere et al. fall between 30 and 36 percent of the national average HAMFI. But as the next sections document, shortfalls across the nation throughout the 1980s were worst well below this range, at rents affordable to households with income below 20 percent of their area's adjusted median income. Thus, the major premise of HOME and the LIHTC—that they are needed to overcome severe shortages of units in their rent range—is badly flawed. Examination of the complete range of rents and incomes reveals that there are large and growing surpluses of units with rents affordable to renters with incomes between 50 and 80 percent of HAMFI, and that the rents of many of these units qualify as affordable under those two programs.

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[20] For "a new system for delivering affordable housing," the NHTF recommended that "the Federal government should create and invest in a 'Housing Opportunity Program' (HOP) designed to foster and stimulate state and local initiatives to develop, renovate and conserve low-income housing" (1988, 19ff.). In addition, "Federal, state and local housing efforts must place greater emphasis on preserving and improving existing low-income housing" and "the Federal government should commit to an adequate rental assistance program to complement production and preservation efforts" (NHTF 1988, 21, 23).

[21] These limits approximate the 1989 poverty thresholds for three-person families.

[22] Leonard and Lazere (1992) examined shortfalls in each of the 44 metropolitan areas surveyed between 1986 and 1989 by the AHS and found that shortfalls had increased since the mid-1970s in most of the MSAs.

Numbers of renters and units they could afford in 1989

AHS tabulations are used in this section to examine where shortages actually occurred in 1989 across the range of rents qualifying as affordable to renters with extremely low, very low, low, or moderate incomes. Specified renter households are grouped by household income into percent-of-HAMFI ranges, and rents are similarly categorized into ranges affordable at 30 percent of those incomes.[23] To measure HAMFIs and official income limits as accurately as is possible with AHS microdata, official income limits were used for each of the 141 large metropolitan areas identified in the microdata file. Outside these areas, AHS geography identifies region, metropolitan status, and climate zone. Average income limits were estimated for each of these 48 locations by weighting the 1989 income limits of each county within the location by its 1980 population.

These comparisons between renters (distributed by relative income) and rental units (arrayed by their affordability at those incomes) demonstrate that throughout the 1980s, the national and regional shortages of units that renters could afford at 30 percent of income occurred at rents of less than half the amounts qualifying as affordable under HOME or the LIHTC. Indeed, the most severe shortages occurred at rent ranges below those previously documented and most often cited by advocates of programs to increase supply.

Shortages of units affordable to renters with extremely low income

In 1989, shortages of units compared with renters were most severe at rents well below those affordable at either the 50 percent of HAMFI very low income cutoff or the lower poverty thresholds (figure 1; table 2). The shortfall was greatest at the

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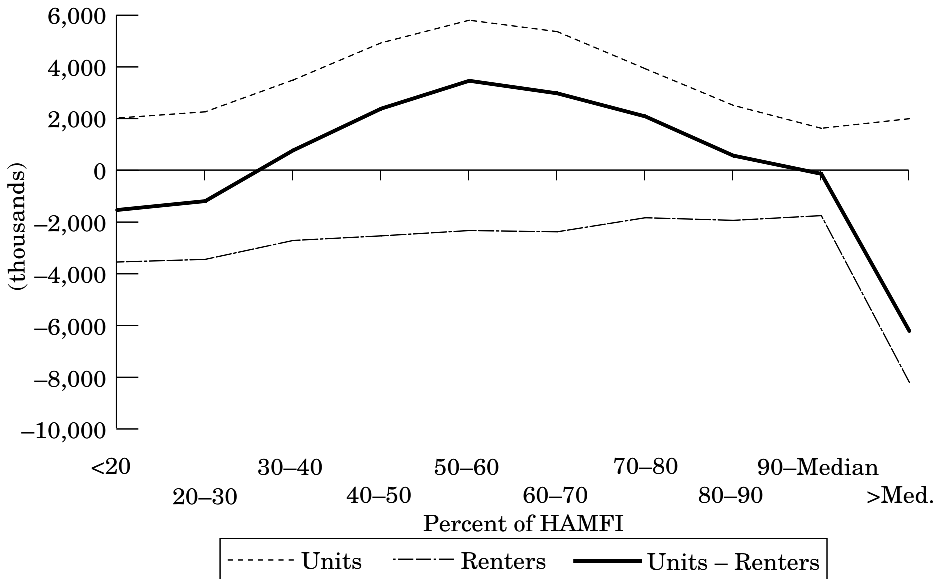
[23] In these tabulations of the AHS microdata, household incomes are classified into categories defined as percentages of HUD-adjusted area median income—less than 20 percent of HAMFI, 20 to 30 percent, and so forth—while gross rents are categorized as affordable to those income ranges at 30 percent of the income cutoff or range in question. Income for each household is compared with its area-specific cutoffs for household size, while rents are compared with cutoffs adjusted for number of bedrooms (see footnote 15). Data are restricted to "specified" units to permit comparisons over time, since in 1979 data on rents and utility payments were gathered only for such units. (Specified units exclude rental units on more than 10 acres or with business or commercial property.)

Figure 1. **Shortage or Surplus[a] of Affordable Rental Units, 1989, by Percent of HAMFI[b]**



Source: 1989 American Housing Survey.
Note: Specified rental units or renters (thousands), excluding units with no cash rent. Number of renters is plotted as negative.
[a] Shortage or surplus equals number of units affordable to renters in given income category (assuming 30 percent of income spent on rent) minus number of renters in income category.
[b] Renters are categorized by income as a percent of HAMFI; units are categorized by rent expressed as a percent of HAMFI, assuming rent-to-income ratio of 30 percent.

lowest income category (below 20 percent of HAMFI).[24] There were slightly more than 2 million units affordable to the 3.6 million renters in this income range. Because most homeless individuals and families, who cannot be counted by the AHS, probably have incomes in this lowest category, the actual shortage of needed units was undoubtedly even worse than these numbers indicate.

The 3.5 million renters with incomes at 20 to 30 percent of HAMFI faced a deficit of 1.2 million units. Half of the 2.3 million units in this rent range had occupants reporting housing assistance, as did three-fourths of the units affordable at incomes below 20 percent of HAMFI.

[24] Units and households with no cash rents are excluded from this comparison. Because income is underreported on the AHS (Hadden and Leger 1990), shortages at the lowest incomes are probably overestimated. This comparison examines relative affordability only, assuming no other mismatches by size, condition, location, or actual occupancy.

Table 2. **Rental Units, Renters, and Shortage or Surplus[a] in 1989 and 1979–89 Changes in Numbers of Units and Renters, by Income Expressed as Percent of HAMFI**

		Income as Percent of HAMFI[b]									
	Total	<20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	>100
Units (thousands)	33,905	2,017	2,257	3,491	4,929	5,806	5,364	3,926	2,508	1,618	1,989
Cumulative %		6	13	23	37	55	70	82	89	94	100
Renters (thousands)	30,820	3,561	3,460	2,726	2,549	2,347	2,392	1,847	1,947	1,766	8,225
Cumulative %[c]		11	21	29	36	43	50	56	61	67	91
Units – Renters (shortage [–] or surplus, in thousands)											
In range	3,085	–1,544	–1,203	765	2,380	3,459	2,972	2,079	561	–148	–6,236
Cumulative (in and below range)		–1,544	–2,747	–1,982	398	3,857	6,829	8,908	9,469	9,321	3,085
Change, 1979–89 (thousands)											
Units	7,004	630	237	223	416	1,025	1,329	999	731	779	637
Renters	5,715	1,528	737	456	576	382	531	128	387	292	698

Source: Tabulations of 1979 Annual Housing Survey and 1989 American Housing Survey.
[a] Shortage or surplus equals number of units affordable to renters in given income category (assuming 30 percent of income spent on rent) minus number of renters in income category.
[b] Renters are categorized by income as a percent of HAMFI; units are categorized by rent expressed as a percent of HAMFI, assuming rent-to-income ratio of 30 percent.
[c] Renters are expressed as a percent of total units, including vacant units.

Surpluses of units over renters at incomes above 30 percent of HAMFI

Nationally, at rents affordable to very low income renters with incomes near and above poverty thresholds, there were surpluses, not shortages, of units over renters in 1989. In the range affordable to renters with incomes from 30 to 40 percent of HAMFI, in which around one-fourth of units had occupants with housing assistance, units exceeded renters by more than 750,000. Similarly, in the range affordable at 40 to 50 percent of HAMFI, where rents still technically qualify as affordable to very low income renters, there were almost twice as many units as renters.

Above very low income thresholds, and throughout the range affordable to renters with incomes from 50 to 80 percent of HAMFI, numbers of units far exceeded numbers of renters. Indeed, almost half of the nation's rental units—some 16 million units—had gross rents affordable at 30 percent of income to renters with incomes ranging between 40 percent and 70 percent of HAMFI. This range includes the rent range most likely for LIHTC units that receive no additional subsidy (ICF 1991) and thus presumably for rental units supplied by HOME as well. But only 8 million renter households had incomes in this range.

Numbers of renters with incomes above the adjusted median incomes for their area greatly exceeded the number of units with rents defined as affordable at 30 percent of those incomes in 1989. However, this apparent shortage occurs only because almost all renters with incomes above median occupied units with rents affordable below median. Indeed, renters at median income paid, on average, only 21 percent of their income for rent.

Cumulative shortages or surpluses

The cumulative distributions of units, renters, and shortages or surpluses at each HAMFI cutoff are shown in table 2. Cumulatively, because of the severe deficit of 2.7 million units affordable at incomes below 30 percent of HAMFI, the number of units fell short of the number of renters needing them throughout most of the very low income range: The surplus of units over renters in categories above 30 percent of HAMFI first offsets the shortage of lowest rent units at about 48 percent of HAMFI. In the aggregate, 37 percent of all rental units had rents affordable below HUD's very low income cutoffs.

Despite the severe shortages of units affordable to families with extremely low income, nationally there were marked cumulative surpluses of affordable units between the very low income and low-income thresholds. Overall, below the low-income threshold there were fully 9 million more affordable units than renters.

In sum, more than four-fifths of rental units were technically affordable to low-income renters at the 80 percent of HAMFI threshold, and fully 94 percent of rental units met the GSE standard of affordability for moderate-income families at median income. Indeed, in 1989 only 6 percent of the U.S. rental stock did *not* meet at least one of the current program definitions of rents affordable to low- and moderate-income renters. Nationally, there was no shortage of units affordable at the moderate- or even the low-income threshold. In particular, there were large and growing surpluses of units affordable in the 50 to 80 percent of HAMFI range and sizable surpluses in the rent range most likely for HOME and LIHTC units receiving no additional subsidies. Both within specific HAMFI categories and cumulatively, shortages of low-rent housing in 1989 clearly were concentrated at rents affordable to incomes below 30 percent of HAMFI.[25]

1979–89 changes in mismatches between rents and incomes

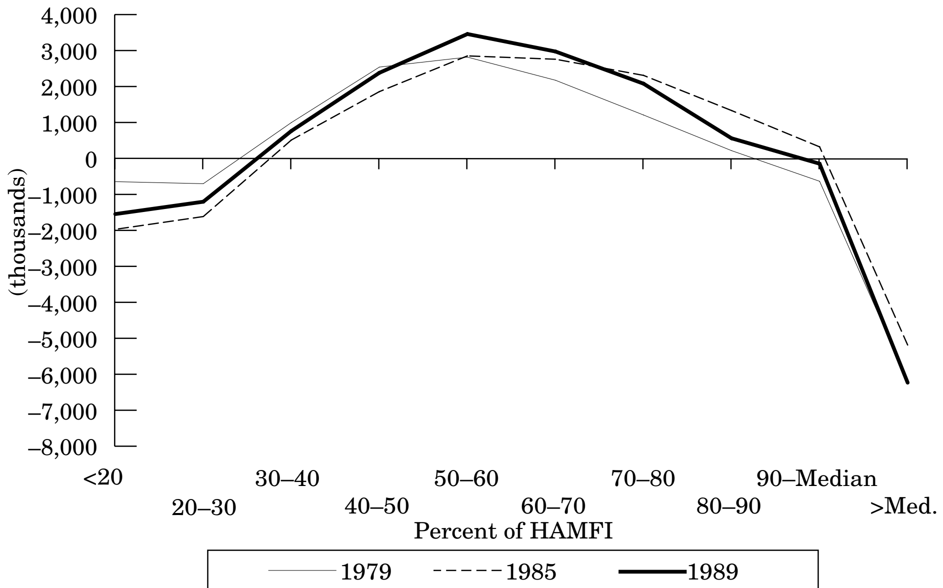
Is there a "worsening shortage of low-rent housing," as Downs (1991, 444) judged in giving high priority to policies that would expand the supply of low-rent housing? Was "the gap between the number of low income renter households and the number of low rent units" wider in 1989 than previously (Lazere et al. 1991, xii)? In figure 2, differences between numbers of units and numbers of renters in each HAMFI range are compared for the years 1979, 1985, and 1989.

Worse shortages for extremely low income renters

Between 1979 and 1989, shortfalls of affordable units definitely worsened at the lowest rent ranges. At incomes below 20 percent

[25] Bogdon, Silver, and Turner's tabulations of 1990 census data from the CHAS database (1994, appendix table 29) confirm these results. Fully 84 percent of rental units were affordable to low-income renters, and there were eight units for every five renters below 80 percent of HAMFI. More than 42 percent of rental units fell below the very low income cutoffs, where there were five units for every four renters. Below 30 percent of HAMFI, by contrast, there were only four units for every five renters.

Figure 2. **Shortage or Surplus* of Affordable Rental Units, 1979, 1985, and 1989, by Percent of HAMFI**



Source: Annual Housing Survey for 1979 and American Housing Survey for 1985 and 1989.
Note: Specified rental units or renters (thousands), excluding units with no cash rent.
*Shortage or surplus equals number of units affordable to renters in given income category (assuming 30 percent of income spent on rent) minus number of renters in income category.

of HAMFI, the deficit more than doubled, growing from 0.6 million to 1.5 million units. The widening gap was due not to net losses in low-rent units, as has often been claimed, but to faster growth in numbers of lowest income renters than in numbers of low-rent units (1.5 vs. 0.6 million; see table 2). At its widest, for incomes below 30 percent of HAMFI, the cumulative shortage also doubled, expanding from 1.3 to 2.7 million units. Expressed as ratios of units to renters with incomes below 30 percent of median (table 3), shortages also became more severe, as the number of units per household dropped from 0.72 in 1979 to 0.61 in 1989.

Wider surpluses above the very low income threshold

Above the very low income threshold, surpluses of affordable units over renters expanded in each category despite worsened shortages at extremely low rents and incomes. In 1979, there were 6.4 million more units than renters in the 50 to 90 percent

Table 3. **Cumulative Mismatch Ratios* in 1979 and 1989 for United States and Regions, by Renters' Income Expressed as Percent of HAMFI**

	Income as Percent of HAMFI									
	<20	<30	<40	<50	<60	<70	<80	<90	<100	Total
United States										
1979	0.68	0.72	0.95	1.24	1.46	1.56	1.58	1.53	1.45	1.07
1989	0.57	0.61	0.80	1.03	1.26	1.40	1.47	1.45	1.41	1.10
Regions, 1979										
Northeast	0.54	0.53	0.76	1.05	1.31	1.45	1.51	1.49	1.41	1.06
Midwest	0.52	0.70	1.10	1.51	1.70	1.77	1.68	1.58	1.47	1.09
South	0.84	0.94	1.17	1.39	1.53	1.62	1.62	1.58	1.49	1.08
West	0.91	0.69	0.74	1.01	1.27	1.41	1.48	1.48	1.45	1.06
Regions, 1989										
Northeast	0.56	0.61	0.74	0.90	1.11	1.23	1.36	1.38	1.38	1.07
Midwest	0.53	0.66	0.96	1.27	1.50	1.55	1.52	1.43	1.37	1.09
South	0.67	0.69	0.89	1.15	1.41	1.54	1.58	1.55	1.48	1.13
West	0.45	0.42	0.54	0.74	0.96	1.20	1.37	1.42	1.40	1.10

Source: Tabulations of 1979 Annual Housing Survey and 1989 American Housing Survey.
*Ratio = number of occupied and vacant rental units with rents at or below 30 percent of income divided by number of renters below income level.

of HAMFI range; by 1989, that surplus was 9 million units. While this range gained 1.3 million renter households, the number of units exploded by 4.1 million. Cumulatively, there were 1.47 affordable units for each renter below the low-income threshold in 1989, down from 1.58 in 1979. However, the numerical surplus of affordable units below the low-income threshold still increased during the decade. In 1989, there were 8.9 million more units affordable at incomes below 80 percent of HAMFI than there were low-income renters, up from a surplus of 8.4 million units in 1979.

When and why?

Although shortages of units for renters with extremely low incomes were greater in 1989 than they had been in 1979, the shortages had been even worse in 1985 (see figure 2). After 1985, mismatches between units and renters eased, and the widest gaps at the bottom of the distribution narrowed slightly. At the same time, surpluses of units over renters expanded throughout the remaining ranges affordable to low- and very low income renters. Thus, rather than steadily worsening, shortages eased and rental affordability improved after 1985.

Fundamentally, the mismatches between renters and units worsened between 1979 and 1989 because the income ranges at which the number of renter households increased were much lower than the rent ranges at which the number of units increased (see table 2). Surpluses of units over renters expanded for incomes above 50 percent of HAMFI because at those levels, net growth in units far outstripped increases in renter households. At the bottom of the distribution, deficits worsened because growth in the numbers of lowest income renters swamped increases in low-rent units.

Net growth in renter households was greatest in the two lowest income ranges.[26] Almost three-fifths of the decade's increase of 5.7 million renter households occurred among very low income renters, most at extremely low incomes (below 30 percent of HAMFI). Renters with low incomes (between 50 and 80 percent of HAMFI) accounted for less than one-fifth of the net increase in renters. By contrast, net increases in rental units clustered in the middle of the rent distribution and were largest at rents affordable to incomes between 50 and 80 percent of HAMFI.

[26] This is consistent with other evidence of greater income inequality and rising poverty among renters (Apgar 1993; Apgar et al. 1991).

Nearly half of the decade's increase of 7 million units occurred in this range.

Where? Shortages and surpluses in the four census regions

To be usable, units must be located where renters need them. Mismatches by location cannot be adequately examined with data from a national sample. Yet even regional data demonstrate that shortages and surpluses varied widely across the nation during the 1980s. To facilitate comparison across regions, shortages and surpluses in 1979 and 1989 are expressed in table 3 as cumulative ratios of units to renters below each HAMFI cutoff.[27] Nationally, this measure confirms that shortages were most pressing at incomes below 20 percent of HAMFI in both years, with ratios falling from 0.68 to 0.57. Surpluses were greatest at the low-income cutoff (80 percent of HAMFI), with three units for every two renters. Although shortages were worst for extremely low-income renters in all regions, regions differed notably in severity of shortages, in changes in shortages over the decade, and in the rent ranges with surpluses.

In both 1979 and 1989, the West and the Northeast had worse shortages or smaller surpluses than the Midwest and the South. At the very low income cutoff, there were deficits of units relative to renters in 1989 in both the West (0.74) and the Northeast (0.90), whereas the numbers of units and renters had been equal in 1979. By contrast, the Midwest and the South had surpluses of units below this cutoff in both years, although the surpluses decreased over the decade.

Shortages

All four regions mirrored the nation in having shortages that were most severe below 30 percent of HAMFI in both years, with ratios below 0.7 in 1989. Yet the decade's changes in shortages of

[27] Bogdon, Silver, and Turner (1994, 2–42) introduce mismatch ratios and summarize how 1990 ratios of affordable rental units to renters below 30 percent, 50 percent, and 80 percent of HAMFI varied among cities, suburbs, and nonmetropolitan areas in the four census regions. As found here, shortages were greatest at 30 percent of HAMFI in all locations, and they were worse in the West and Northeast than elsewhere. Within each region, shortages were greater in cities and suburbs than in nonmetropolitan areas. Western central cities had the worst shortages: There were only 0.43 units per household with incomes below 30 percent of HAMFI.

housing in these lowest income and rent ranges varied strikingly by region. The West experienced the most severe deterioration, a phenomenon undoubtedly related to its rapid growth in worst-case needs for rental assistance (HUD 1991, 24). Ratios plunged from 0.91 to 0.45 units per renter with income below 20 percent of HAMFI and from 0.69 to 0.42 units per renter at the extremely low income (less than 30 percent of HAMFI) cutoff. Ratios of units to extremely low income renters also fell in the South, from 0.94 to 0.69.

Although gaps at the lowest rents worsened in both the West and South between 1979 and 1989, in Frostbelt regions shortages were stable or even improved. In the Midwest the shortage at incomes below 30 percent of HAMFI was stable over the decade, and in the Northeast the ratio of units to renters below this level rose from 0.53 to 0.61. The Northeast was the only region in which changes in units over the decade matched those in renters at the lowest end, while gaps widened near the very low income cutoff.

Surpluses

In each region the greater 1989 shortages at low rents made cumulative ratios lower in 1989 than in 1979 across most of the income-rent distribution. Nevertheless, even cumulatively, all four regions had wide surpluses of units affordable at and below the low-income cutoff in both 1979 and 1989. In 1989, there were four units for every three renters with incomes below 80 percent of HAMFI in the Northeast and West; and in the Midwest and South, ratios of units to renters exceeded 1.5 at rents affordable to renters with incomes as low as 70 percent of HAMFI.

Surpluses of units over renters were greater in the South and Midwest. At incomes between 30 and 80 percent of HAMFI, units in the South outnumbered renters by 4 million in 1989, a surplus that had increased by 1.3 million since 1979. The Midwest also had large and increasing surpluses in this range. The West was the region with the largest deficits or smallest surpluses for incomes below 70 percent of HAMFI. Nevertheless, at incomes between 70 and 100 percent of HAMFI, ratios of units to renters exceeded 1.33 in all four regions.

Changes in numbers of units and renters

The worsening national mismatch of faster growth in lower income renters but higher rent units mainly reflects the experience in the West and South, locus of most of the nation's growth during the 1980s (Bogdon, Silver, and Turner 1994; Frey 1993). Each region added many renters with incomes below 30 percent of HAMFI while together accounting for the bulk of national growth in units with rents affordable to incomes between 40 and 90 percent of HAMFI.

In no region were there net losses in numbers of lowest rent units (table 4). Instead, in each region the growth in numbers of lowest income renters outpaced that of units they could afford. This disparity was widest by far in the West, which added 339,000 renters with incomes below 20 percent of HAMFI but only 19,000 units with rents affordable to them. Similarly, the West's worsening shortfall at incomes below 30 percent of HAMFI reflected an increase of 625,000 renter households but only 35,000 units. The Northeast was the only region with net losses of units in any range: Mismatches worsened there because of losses among units with rents affordable at incomes between 30 and 70 percent of HAMFI.

Surpluses widened at the upper end of the distribution because growth in numbers of units so far outstripped growth in numbers of renters. The excess was greatest in the South at incomes of 40 to 70 percent of HAMFI and in the West at incomes of 60 to 80 percent of HAMFI. The number of units with rents affordable at incomes above 70 percent of HAMFI also rose in the Northeast.

In sum, although the extent of shortages below the very low income threshold differed markedly across regions, the most important national patterns held in all regions. Not only were shortages always worst for extremely low income renters, but over the decade the numbers of lowest income renters everywhere increased faster than the numbers of units they could afford. Conversely, in every region except the West there were surpluses in every low-income category above the 30 percent of HAMFI cutoff. Surpluses widened in many of these categories as growth in numbers of units exceeded increases in numbers of renters. Thus, this analysis of complete rent and income distributions demonstrates that HOME and the LIHTC are not likely to directly provide the lowest rent units that are in short supply. Nationally and regionally, serious shortages of units during the 1980s were concentrated and growing at rent levels below those

Table 4. **1989 Shortage or Surplus[a] and 1979–89 Changes, by Region, by Income Expressed as Percent of HAMFI**

	Percent of HAMFI[b]										
	Total	<20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	>100
1989 shortage (–) or surplus (thousands)											
Northeast	495	–348	–239	47	272	595	501	592	245	114	–1,284
Midwest	582	–477	–152	522	940	953	494	72	–227	–194	–1,349
South	1,257	–371	–316	345	895	1,340	1,033	581	119	–164	–2,205
West	751	–348	–496	–149	273	571	944	834	424	96	–1,398
Change in shortage or surplus, 1979–89 (thousands)											
Northeast	102	–124	189	–130	–335	–216	–100	174	134	303	207
Midwest	104	–184	–84	–8	44	221	23	42	–82	53	79
South	650	–270	–335	–65	255	677	437	222	50	36	–357
West	433	–320	–270	–31	–125	–40	438	434	242	95	10
Change in units, 1979–89 (thousands)											
Northeast	325	185	3	–154	–354	–201	–78	187	125	293	319
Midwest	1,311	227	150	212	174	251	156	22	46	42	31
South	3,279	199	68	99	531	893	728	300	180	186	95
West	2,089	19	16	65	64	81	523	491	380	258	192

Table 4. **1989 Shortage or Surplus[a] and 1979–89 Changes, by Region, by Income Expressed as Percent of HAMFI**
(continued)

	Total	Percent of HAMFI[b] <20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	>100
Change in renters, 1979–89 (thousands)											
Northeast	223	309	–186	–24	–19	15	22	13	–9	–10	112
Midwest	1,207	411	234	220	130	30	133	–20	128	–11	–48
South	2,629	469	403	164	276	216	291	78	130	150	452
West	1,656	339	286	96	189	121	85	57	138	163	182

Source: Tabulations of 1979 Annual Housing Survey and 1989 American Housing Survey.
[a] Shortage or surplus equals number of units affordable to renters in given income category (assuming 30 percent of income spent on rent) minus number of renters in income category.
[b] Renters are categorized by income as a percent of HAMFI; units are categorized by rent expressed as a percent of HAMFI, assuming rent-to-income ratio of 30 percent.

examined in previous studies, and far below the rents supplied by HOME and the LIHTC without additional subsidies.

Evidence from vacancy rates about needs for expanded supply

Like the most-often-cited studies of low-rent shortages, this article has focused so far on arithmetic differences between units and renters. But these calculations say nothing about whether "surplus" units are available to renters seeking them or are already occupied by others. Do regional vacancy rates at rents measured in relation to HAMFI confirm that shortages are worst for extremely low income renters? Do they confirm that affordable rental housing is generally available to other very low income and low-income families?

As growth in rental units outpaced that in renter households between 1979 and 1989, the national rental vacancy rate rose from 6.0 to 7.8 percent. Although looser markets should theoretically induce rent decreases (but see Apgar 1993), in all regions worsening shortages at extremely low rents imply that pressures on the lower end of rental markets increased. The growing disparity between shortages at the lowest rents and surpluses affordable to other low-income renters suggests that vacancies increased most at rents unaffordable to renters with extremely low income.

Vacancy rates were indeed higher at the highest rents. At rents affordable to incomes above 70 percent of HAMFI, vacancy rates exceeded the 5 percent usually thought sufficient in all four regions (table 5).[28] Even in the West, which had had low vacancy rates in 1979 among units affordable to renters in the 70 to 100 percent of HAMFI range, markets were relatively loose in 1989.

Nonetheless, 1989 vacancy rates were also comfortably high at rents affordable to incomes from 30 to 70 percent of HAMFI in all regions except the Northeast. These rent ranges not only encompassed the bulk of the rental stock in all four regions, but, as a second article will show, in most places they fell below local FMRs (Nelson 1995). Moreover, vacancy rates generally rose in this range, with the greatest increases in the South and the West. In 1989, vacancy rates were below 5 percent in only 5 of

[28] Belsky (1992) discusses situations in which this generalization is inappropriate.

Table 5. **Vacancy Rates (percent), 1979 and 1989, by Percent of HAMFI**

	Percent of HAMFI*										
	All Units	>20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100	>100
Vacancy rates, 1979											
U.S.	6	4	7	6	5	5	6	6	8	6	12
Northeast	5	4	6	4	4	5	5	6	7	6	4
Midwest	7	5	13	8	7	4	7	6	10	8	22
South	7	4	6	6	6	5	5	9	11	10	19
West	5	3	4	5	4	4	5	3	4	3	12
Vacancy rates, 1989											
U.S.	8	9	5	7	9	8	7	7	8	9	10
Northeast	5	9	3	3	3	6	4	6	9	7	6
Midwest	7	8	5	7	7	7	7	6	6	11	20
South	10	11	7	11	12	12	9	9	9	11	16
West	7	9	3	7	10	7	7	5	9	9	9
Percentage point change in vacancy rates, 1979–89											
U.S.	2	5	–3	1	3	4	2	1	1	2	–2
Northeast	0	5	–3	–1	–1	1	–2	0	2	1	2
Midwest	0	3	–8	–2	0	2	0	1	–4	3	–2
South	3	7	1	4	6	7	4	0	–3	1	–3
West	3	6	–1	2	6	3	2	2	5	6	–3

Source: Tabulations of the 1979 Annual Housing Survey and the 1989 American Housing Survey, specified rental units only (i.e., excluding rental units on more than 10 acres or with business or commercial property).

*In calculating vacancy rates, units are categorized by gross rent expressed as a percent of HAMFI, assuming rent-to-income ratio of 30 percent.

the 40 regional categories. The Northeast was the only region with low and decreasing vacancy rates at most rents affordable to very low income renters.

Nationally, vacancy rates were lowest and fell most in the range affordable at 20 to 30 percent of HAMFI. Sizable drops in the Northeast and the Midwest suggest that this range was under the most pressure in those regions. By 1989, vacancy rates were a tight 3 percent in this range in both the Northeast and the West. Despite these tight conditions and evidence of worsening shortages, vacancy rates increased at the very lowest rents in all regions. Even the Northeast saw the greatest increases in vacancy rates in the range affordable to incomes below 20 percent of HAMFI. These high vacancy rates are puzzling in view of the evidence that shortages worsened over the decade at the lowest end. These high vacancies may reflect buildings in the final stages of disinvestment and abandonment (Apgar 1993, 12) or in unacceptable neighborhoods (Stegman 1992; Turner and Edwards 1993, 154). Also, since some three-fourths of occupants in this rent range reported receiving housing assistance in 1989, vacancies may have been clustered in distressed public housing or assisted projects.[29]

Vacancy rates thus reinforce the evidence from expanding surpluses that in 1989 there were ample and increasing supplies of housing affordable to most low-income renters in all regions of the country. Vacancy rates also confirm that units in the upper range of rents affordable to very low income renters were available in all regions except the Northeast. Refining the national and regional evidence that shortages were greatest at rents affordable to incomes below 30 percent of HAMFI, the vacancy rates imply that units affordable to renters in the 20 to 30 percent of HAMFI range were least available. If expanded supplies of affordable housing are needed anywhere, it is likely to be at these lowest rents.

Shortages compared with actual needs for other units

The rationale for HOME and the LIHTC cited by the Senate in 1992 and reemphasized by Steinbach (1992) is that these programs are necessary to produce directly the low-rent housing

[29] Turner and Edwards (1993) found that vacancy rates and losses between the mid-1970s and mid-1980s were highest for the lowest rent housing in poor inner-city zones, and they speculated that vacant units might be in the process of being lost from the housing stock.

that is in short supply. But units with rents in the ranges supplied by HOME and the LIHTC without additional subsidies are clearly *not* in short supply. Instead, all regions of the country have surpluses of units over renters at rents affordable to those in the 40 to 80 percent of HAMFI range, and all but the Northeast have adequate and increasing vacancy rates in this range.

Moreover, although arithmetic differences between units and renters are often cited as if they directly measured the number of additional units needed to expand supply, there is no fundamental reason why the two should be identical. For many reasons other than locational mismatches, shortfalls may undercount the number of households who pay more than 30 percent of income for housing. In particular, because many affordable units are occupied by renters who pay *less* than 30 percent of income for rent, the numbers of renters with excessive rent burdens exceed arithmetic shortages of the lowest rent units. For example, some 5.3 million U.S. renters, almost twice the arithmetic shortage of 2.7 million units affordable in the less than 30 percent of HAMFI range, reported paying more than half their income for housing in 1989. The 4.7 million unassisted very low income renters with these severe rent burdens accounted for most of the 5.1 million renters with worst-case needs for preference in admission to rental assistance programs in 1989 (HUD 1991).[30] More than half of all extremely low income renters had these severe rent burdens.

Furthermore, households eligible for rental assistance may need other units because their current housing is inadequate or crowded. In addition to having severe rent burdens, renters with the very lowest incomes more often have crowded or severely substandard housing or multiple problems (Nelson and Khadduri 1992, 32). Thus, actual needs for assistance or for additional units may far outstrip arithmetic shortfalls.

Conversely, households with housing problems increasingly have only excessive rent burdens (HUD 1991, 23). Even among worst-case renters, almost three-fourths have only a rent burden. Such renters could be served by tenant-based certificates in their current housing if their rent is below the local FMR. Thus types

[30] Congress has directed that very low income households who live in severely substandard housing, have severe rent burden, or are involuntarily displaced should be given preference in admission to assisted housing programs (Herr and Pincus 1994). Between 1974 and 1989, the number of these "worst-case needs" households grew by 44 percent. Growth resulted from expansion of the base and the number with rent burdens, as the number and incidence of substandard units steadily declined (HUD 1991, 22).

of housing problems and the characteristics of households with problems are more pertinent than arithmetic shortages in assessing needs and programs to expand supplies of affordable units. Arithmetic shortfalls may signify needs for expanded coverage of rental assistance to make more of the existing stock affordable to the lowest income renters, not needs for additional housing units. This section examines at the regional level whether shortages of units relative to renters should be interpreted as direct counts of the number of households who need other—adequate and uncrowded—housing units.

In table 6 and figure 3, arithmetic shortages of units are compared with numbers of very low income and low-income renters with housing problems in each region in 1989. In each region, the number of renters with one or more housing problems (rent burden above 30 percent of income, crowding, or inadequate housing) is three to five times larger than the arithmetic shortage of units affordable at 30 percent of HAMFI. Shortages thus give only lower bound estimates of housing problems.

Shortages are a better proxy for priority problems, which are highly concentrated at the lowest incomes, where shortages are worst. The numbers of worst-case renters, who should receive priority in admission to housing assistance, are essentially twice as large as arithmetic shortages. Even so, in each region more than two-thirds of the worst-case renters lived in adequate housing with enough bedrooms for their household members; their only housing problem was rent burden (figure 3). This was true even in the West, the region with the greatest shortage of low-rent housing and the most upward pressure on rents. Households with one or more problems in addition to a severe rent burden also typically had incomes below 30 percent of the median. The additional problem was most often inadequacy in the South and overcrowding in the West.[31] Some households with multiple problems could be helped in place by rehabilitation programs, but more needed other housing.

Approximately one million worst-case renters needed to move to other housing in 1989 because their current housing was either crowded or so seriously inadequate that rehabilitation would not have been cost-effective. Very low income renters needing other units (as indicated by the long dashes in figure 3) typically constituted less than one-third of a region's arithmetic shortage (see table 6). Because these households also overwhelmingly had

[31] Families with children were the type of household most likely to experience multiple problems and to need other (larger) housing; elderly households most often had only a rent burden (Nelson and Khadduri 1992, 23–29).

Table 6. **Arithmetic Shortages of Units and Numbers of Households with Housing Problems, by Income Expressed as Percent of HAMFI and Region, 1989**

	Income 0–50% HAMFI		Income 0–80% HAMFI	
	Number (thousands)	Number of Households with Problems/ Arithmetic Shortage	Number (thousands)	Number of Households with Problems/ Arithmetic Storage
Northeast				
Shortage[a]	587		587	
Any problem[b]	1,663	2.83	2,361	4.02
Priority problem[c]	1,206	2.05	1,358	2.31
Need other unit[d]	216	0.37	310	0.53
Need current housing rehabilitated	85	0.14	85	0.14
Midwest				
Shortage[a]	629		629	
Any problem[b]	1,959	3.11	2,379	3.78
Priority problem[c]	1,157	1.84	1,224	1.95
Need other unit[d]	172	0.27	229	0.36
Need current housing rehabilitated	82	0.13	82	0.13
South				
Shortage[a]	687		687	
Any problem[b]	2,619	3.81	3,624	5.28
Priority problem[c]	1,528	2.22	1,638	2.38
Need other unit[d]	254	0.37	311	0.45
Need current housing rehabilitated	184	0.27	184	0.27
West				
Shortage[a]	844		993[e]	
Any problem[b]	2,141	2.54	2,987	3.01
Priority problem[c]	1,354	1.60	1,447	1.46
Need other unit[d]	240	0.28	291	0.29
Need current housing rehabilitated	96	0.11	98	0.10

Source: Tabulations of the 1989 American Housing Survey.

[a] Shortage = number of renters with incomes below 30 percent of HAMFI minus number of units affordable to them (i.e., units with rents below 30 percent of 30 percent of HAMFI).

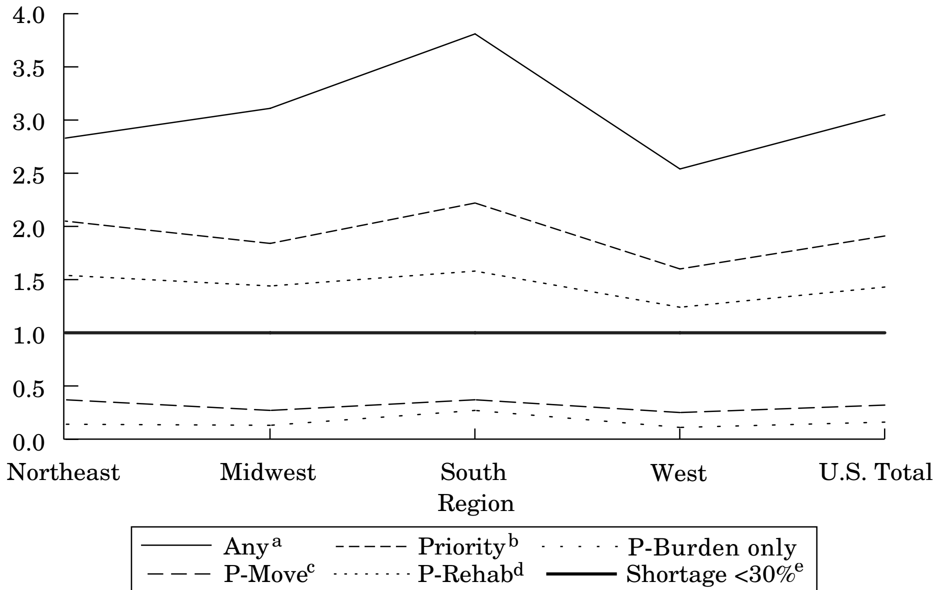
[b] Any problem = rent burden of more than 30 percent of income, overcrowded housing, or housing with moderate or severe physical problems.

[c] Priority problem = rent burden of more than 50 percent of income or housing with severe physical problems.

[d] Because current housing is overcrowded or severely inadequate.

[e] Shortage of affordable units for renters with incomes of 40 percent of HAMFI; for the West only, the shortage at this level is greater than that at 30 percent of HAMFI.

Figure 3. **Ratio of Very Low Income (50 percent of HAMFI) Households with Housing Problems to Number of Units in Shortage, 1989, by Region**



Source: 1989 American Housing Survey.
Note: Burden only, move, and rehab categories are subsets of priority problems.
[a] Any problem = rent burden of more than 30 percent of income, overcrowded housing, or housing with moderate or severe physical problems.
[b] Priority problem = rent burden of more than 50 percent of income or housing with severe physical problems.
[c] Household must move to another unit because current unit is overcrowded or severely inadequate.
[d] Current unit could be rehabilitated to address housing problem.
[e] Shortage = number of renters with incomes below 30 percent of HAMFI minus number of units affordable to them (i.e., units with rents below 30 percent of 30 percent of HAMFI).

incomes below 30 percent of HAMFI, they could not afford units with rents set at 30 percent of 60 to 65 percent of HAMFI without subsidies.

In each region, renters with incomes above 30 percent of HAMFI rarely had a severe rent burden and almost never had inadequate or overcrowded housing. Renters with incomes between 50 and 80 percent of HAMFI who did have a problem were most often paying between 30 and 50 percent of income for housing. Those for whom HOME or LIHTC rents were "affordable" at 30 percent of income therefore rarely needed other housing units and often already paid less than 30 percent of income for rent.

These comparisons show that the numbers of renters experiencing housing problems far exceed arithmetic shortages at the extremely low income cutoff. Numbers of low-income renters with housing problems are three to five times higher than arithmetic shortages of units. Yet because some three-fourths of low-income renters with housing problems have only a rent burden, the numbers needing other housing units are much smaller than the estimated shortfalls. In particular, the numbers of other units needed for worst-case renters are only one-third as high as the arithmetic shortages.

Analyzing needs for expanding supplies of units with rents below local FMRs

Like Apgar (1993), I found in this comparison of rents against renters by income "an abundance of housing for all but the poor." But when shortages, surpluses, and vacancy rates are measured with the median-income-based metric used for most federal housing programs, it is clear that HOME and the LIHTC must supply units at rents far below these programs' current "affordable" limits if they are to directly produce the low-rent housing in shortest supply. Available evidence on the LIHTC (ICF 1991; Stegman 1991) suggests that such low rents have been reached only by combining additional subsidies with the tax credit and that tenant-based assistance is much more cost-effective than the tax credit in serving renters with extremely low incomes.[32]

By probing the actual housing problems experienced by very low income and low-income renters, this article has further shown that arithmetic shortages of low-rent units relative to renters should not be assumed to necessitate additions to supply. Although shortfalls of units seem related regionally to actual housing problems among low-income renters, fewer than one-fifth of the lowest income casualties of low-rent shortages need other housing.[33] If tenant-based assistance were available, most renters with priority claims to housing assistance could afford their current adequate and uncrowded units. This critical

[32] Early data on completed projects from HUD's HOME Cash and Management Information System suggest that HOME funds are better serving both owners and renters with extremely low and very low incomes, but they do not show whether multiple subsidies were used.

[33] HUD's 1994 report on worst-case needs also documents close correlations in 1990 at the state level between housing shortages for extremely low income renters and the numbers of renters with any problems or with severe rent burdens.

reexamination of national and regional evidence with regard to needs for additional supply thus points, like an earlier analysis of housing problems (Nelson and Khadduri 1992), toward the desirability of greatly expanding tenant-based assistance. But such a recommendation should also depend on "whether local market conditions are conducive to a more deeply targeted voucher-oriented . . . low-income housing policy" (Stegman 1992, 62).

Addressing this important question requires consideration of another measure that, like HAMFI, is unfamiliar and difficult to estimate but basic to rental programs—FMRs—and evaluation of another argument advanced by some for supply-side programs. Even if HOME and the LIHTC do not directly provide housing affordable to the poorest, they may help make affordable housing more accessible to these renters in two ways. First, for certificate and voucher holders unable to find units, HOME and the LIHTC may be needed to help augment supplies of units with below-FMR rents. Averaged across the nation, FMRs, at 30 percent of 63 percent of HAMFI, are in the same range as HOME and LIHTC ceilings. Second, stock added by these programs may place downward pressure on rents, which will benefit unassisted very poor households.[34]

Rather than discuss FMRs here, I will further explore these issues at the regional and metropolitan level in a second article (Nelson 1995). To anticipate, that article will conclude that neither HOME nor LIHTC necessarily augments supplies of units with extremely low rents or even of units affordable to holders of Section 8 certificates or vouchers. Although local housing market conditions differed greatly across the nation and FMRs differed substantially from HOME and LIHTC ceilings in many places, in the late 1980s most major housing markets did not need additions to the supply of below-FMR units to meet the needs of renters whose current units were crowded or severely inadequate.

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[34] As Turner and Reed (1990, 12) summarize, "one [housing production] strategy would be to offer more 'shallow' production subsidies, thereby enabling developers to lower their rent levels to local Fair Market Rents. Although these units would not be affordable for the poorest households, this strategy would expand the number of units available for households holding vouchers or certificates, and—in theory at least—would loosen the rental market so that additional existing units would 'trickle down' to the lowest rent levels."

Summary and implications for housing policy

Shortages of low-rent units are repeatedly cited as the urgent reason for funding programs to "expand the supply of affordable housing." But the constant-dollar rents tracked in the past as evidence for this thesis fall well below those provided by today's major supply programs, the LIHTC and HOME investment partnerships. To examine the implications of this disparity, in this article I have directly compared units affordable at 30 percent of income with households along a continuum of incomes expressed, as in most current housing programs, as percentages of HAMFI.

Across the United States during the 1980s, the shortage thesis held true only, or best, at rents *below* those previously studied. Shortages occurred at rents affordable to households with extremely low incomes, below 30 or even 20 percent of area median income. Such households could not afford HOME or LIHTC units at or near ceiling rents without substantial additional subsidies.

Moreover, the common assumption that shortfalls directly measure needs for increased supply is seriously misleading. Arithmetic shortfalls of units far exceeded the numbers of renters needing other housing. Even at extremely low incomes, in each region more than two-thirds of renters with housing problems have only a rent burden. Those who occupy units with rents below local FMRs could most cost-effectively be assisted in place with a certificate or voucher. Renters with housing problems most often need other housing units in the South, but this region also has very high vacancy rates.

By contrast, throughout the rent ranges affordable to renters with incomes between 30 and 80 percent of HAMFI, including those most likely to be supplied by HOME and the LIHTC, there were sizable surpluses of affordable housing in all regions but the West and little need for other units among the renters who could afford these units without subsidy. These results show that the major premise underlying HOME and the LIHTC—that they are needed to expand the low-rent stock that is in short supply—does not hold in any region.

This review of national and regional trends raises many questions requiring further study within local housing markets. More research on local dynamics is essential to probe the paradox of high vacancies at very low rents when so many very poor renters report excessive rent burdens and to better understand why the lowest rent units drop from the stock or how they can be

preserved (Stegman 1992). Thorough analyses of housing problems and market conditions in specific markets are also indispensable for crafting effective local housing strategies (Bogdon, Silver, and Turner 1994).

But despite the need for more disaggregated analyses, particularly with respect to the availability of below-FMR units, these results have clear implications for national and local policy choices. Most important, they strongly reinforce the emerging consensus that all or most additional federal funds should be used for tenant-based assistance (Struyk 1991, 401).

Tenant-based assistance

To the extent that current housing subsidy programs are intended to produce affordable housing without additional demand-side subsidies, these results demonstrate that both HOME and the LIHTC fail for the households who most need other affordable housing units. Where they are intended to work only *with* additional subsidies, they may be unnecessary and/or excessively costly in locations with ample supplies of below-FMR units. In costly locations such as the West, the HOME and LIHTC maximum rents may be too low to induce increases in the supply.

In either case, in view of the high cost of construction and major rehabilitation and the high proportion of housing problems that could be solved by much less expensive tenant-based assistance, these results imply that demand-side subsidies should receive much higher shares of available funding.[35] Supply initiatives may be appropriate in tight markets, and they can be useful for neighborhood revitalization. But in view of budget constraints and varying local market conditions, most federal dollars should go toward expanding tenant-based rental assistance. Not only could tenant-based assistance solve three-fourths of worst-case needs directly, but it could also make HOME or LIHTC rents affordable to those most needing these units.

Tenant-based assistance programs have other important advantages. They better serve families with children (Casey 1992), the group for which serious housing needs have increased most rapidly (HUD 1991, 17), and provide them better neighborhoods

[35] HUD (1992) examines the fiscal year 1993 funding mix among programs and documents the greater number of worst-case-needs households served with tenant-based assistance.

(Newman and Schnare 1993). By not restricting assisted households to specific locations, they allow renters access to job opportunities and better schools. Not least, their steady revenue could stabilize the existing low-rent stock by funding maintenance and strengthen neighborhoods by allowing families to stay in homes of their choice. Supply-side subsidies should be secondary, filling in gaps to enable demand-side subsidies to work for all family sizes and market conditions.

HOME and other supply programs

By showing that HOME and LIHTC ceiling rents are much too high to address the nation's critical housing needs, these results seriously challenge the need for both programs as presently targeted. Both programs could and should be better directed by states and localities toward the lowest income renters with the most serious needs (Nelson and Khadduri 1992). Even without better targeting, however, HOME supplements tenant-based assistance better than the LIHTC or any other current supply program.

HOME's paramount advantage is the flexibility it allows for local choice among tenant-based assistance, acquisition, rehabilitation, and new construction for renters and for owners.[36] As Congress recognized, local housing conditions vary greatly, and categorical federal programs can be completely inappropriate in specific markets. The more markets differ in housing problems, growth, and supply, the more preferable is HOME to programs such as Section 202, Section 811, or public housing, which supply units targeted to specific types of households through crude fair-share formulas.

The LIHTC is more flexible than public housing or Sections 202 and 811. However, it is restricted to new construction, substantial rehabilitation, or acquisition for the rental market, and its population-based allocation encourages supply initiatives in each state regardless of need. In markets with high vacancies, or where rents of 30 percent of 60 percent of HAMFI exceed FMRs, the LIHTC competes with, and threatens, the existing low-rent stock. Most seriously, because of the LIHTC's inefficiencies and high transaction costs, less than half of the revenue forgone to

[36] Because families with children have borne the brunt of declines in ownership while worst-case needs have risen sharply among households needing large units, better-targeted ownership programs could reduce pressure on rental markets (Nelson and Khadduri 1992).

the federal government actually serves to develop housing (Stegman 1991, 371), and very few of the units supplied serve the worst-case renters who most need them (HUD 1992, 38).

Other programs to encourage "affordable" housing

Although this article has focused on HOME and the LIHTC, its evidence of widespread surpluses of units affordable to low-income renters is also highly pertinent to the many other programs now intended to encourage more affordable housing. Most (such as those of the Resolution Trust Corporation [RTC] and the Federal Home Finance Board [FHFB]) also define as "affordable" rents between 30 percent of 50 percent and 30 percent of 65 percent of HAMFI, which far exceed the rent levels most needed. Moreover, their requirements that only 20 percent of units be affordable below the very low income cutoff are minimal in light of needs and rent distributions.[37] The definition underlying the affordability goals for GSEs is particularly egregious: If rents "affordable to low- or moderate-income renters" are defined as rents affordable below 30 percent of the median income itself, almost *all* rental housing qualifies. Allowing such high rents to qualify as "affordable" under these programs will contribute little or nothing to solving the acute affordability problems that confront so many of this nation's poorest renters.

Author

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[37] FHFB requires that 20 percent of rental units have rents affordable at the very low income cutoff. RTC requires that 20 percent be affordable for very low income renters, with rents affordable at 50 percent of HAMFI, and that another 15 percent be affordable to renters with "other low" income (below 80 percent of HAMFI), with rents affordable at 65 percent of HAMFI.

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