

Rental Market Stresses: Impacts of the Great Recession on Affordability and Multifamily Lending



Joint Center for Housing Studies
of Harvard University

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WHATWORKS
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Building Knowledge & Sharing Solutions
for Housing & Urban Policy

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WHAT WORKS COLLABORATIVE

Building Knowledge and Sharing Solutions for Housing and Urban Policy

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The Joint Center for Housing Studies of Harvard University

1. Introduction

Despite record-high vacancy rates and falling rents in some areas, the Great Recession did little to halt the long-term erosion of rental housing affordability. Indeed, conditions took a turn for the worse in the past decade when renters were squeezed by lower real incomes and rising rents and energy costs. Between 2001 and 2009, the share of renters paying more than 30 percent of their incomes for gross rent (contract rent plus tenant-paid utilities) jumped from 41.2 percent to 48.7 percent. At the same time, the share of renters paying more than half their incomes for housing climbed from 20.7 percent to 26.1 percent, with fully 2 percentage points of this increase occurring between 2007 and 2009 alone. The growing share of cost-burdened renters is apparent in all of the 100 largest metropolitan areas in the country.

Yet even as the number of financially stressed renters has expanded, the supply of rental housing that is affordable and available to these households has shrunk. Between 2003 and 2009, the number of very low-income renters (with incomes less than 50 percent of the area median) swelled from 16.3 million to 18.0 million while the number of rental units affordable at those income levels, not rented by higher-income households, and of adequate quality dropped from 12.0 million to 11.6 million. By 2009, there were only 64 affordable, available, and adequate rental units for every 100 very low-income renter households. The situation for extremely low-income households (with incomes below 30 percent of area median) is even more dire, with renters outnumbering affordable, available, and adequate units almost three to one.

While rents did not fall nationally as measured by the Consumer Price Index, surveys of professionally managed apartments found widespread declines in rents in 2009 indicating

significant market weakness. By the fourth quarter of 2010 most markets had seen rents begin to rise again, but often at a rate that was close to the rise in overall prices. But in areas and market segments where rents continue to slide, the pressures on the affordable rental housing stock will only increase. With renter incomes at the bottom of the distribution failing to keep pace with increases in rental operating costs, this pressure is likely to continue in lower-rent market segments. When rents fall for units on the margins of financial viability—which many low-cost properties are—the quality of the housing ultimately erodes and vacancies climb. This is not a signal of added supply but rather that more of the affordable stock has become uninhabitable. Even modestly higher vacancies induce owners of low-end properties to withhold maintenance because they cannot cover its costs.

For many multifamily property owners, the news is hardly better. Although vacancy rates have now retreated from record highs and rents and property values appear to be recovering, loan performance is still poor. As in the single-family market, low-cost, readily available financing fueled a boom in the multifamily rental sector during the early to mid-2000s. The recession then burst the bubble in multifamily property prices and exposed the weakness in underwriting, most notably among loans held in commercial mortgage-backed securities (CMBS) and, to a lesser extent, in the portfolios of depository institutions. In comparison, loans held or guaranteed by Fannie Mae and Freddie Mac—which accounted for nearly half of the expansion in multifamily credit—have performed relatively well, with delinquency rates only a fraction of those for CMBS loans.

The surge in loan delinquencies has raised concerns about current and future losses on multifamily loan and securities portfolios. In addition to using looser underwriting standards and overly optimistic pro forma expectations, lenders originated many loans during the height of the boom with relatively short terms. While estimates vary, there is common agreement that a significant share of these loans will mature in the next few years. The risk is that recession-induced declines in net operating incomes and property values will make it difficult for property owners to refinance under today's tighter underwriting guidelines. However, over the last year rental vacancy rates have fallen and

rent increases have started to take hold, which may ease the financial pressure on many properties.

Participants in the multifamily market interviewed for this report in the first half of 2010 indicated that the resolution process for troubled loans may well lead to extensions or modifications that give owners time to get back on their feet financially. The workout options are similar to those in the single-family mortgage market, ranging from forbearance and loan modifications to short sales and foreclosures if a change in ownership is warranted. An important distinction in the multifamily market is that owners of large properties do not want to jeopardize their relationships with lenders and are therefore motivated to seek resolutions short of foreclosure, including investing more capital in properties that—at least on paper—are financially under water.

Moreover, even if the lender forecloses and brings in new management, lease-compliant renters face little risk of displacement. A federal law passed in May 2009 protects tenants of foreclosed or sold properties from rapid eviction, requiring new owners to provide at least 90 days notice to vacate and to honor the terms of any existing leases. Interviewees indicated that the eviction risk for tenants of large multifamily properties is particularly small because lenders and owners want to retain lease-compliant renters in order to maintain cash flows. They did, however, suggest that noncompliant tenants are more likely to be evicted if new management is brought in to run the property and reimposes normal property management practices. It should be noted that financially stressed renters lack the same options available to struggling homeowners under federal loan modification programs, yet are even more at risk of being unable to pay for housing because of their lower incomes and higher unemployment rates.

But more than eviction risk, the critical issue for renters is that cash-strapped owners will be unable or unwilling to invest adequately in their properties. This is a particular concern for lower-grade properties, where rent pressures and lack of capital threaten the already limited stock of units affordable to the lowest-income households.

Undermaintenance has implications not just for the physical condition of the housing but also for the quality of life of tenants and the surrounding communities.

While interviewees expected multifamily loan delinquencies to rise further, they generally believed that the market had bottomed out. Indeed, with a large stock of capital available for equity and debt investment, investors and lenders are beginning to become active in the strongest market segments, typically the highest-quality properties in the largest metropolitan areas. At the same time, the financing environments for less attractive multifamily properties and for those located outside of large markets will likely remain difficult.

2. Deteriorating Rental Affordability

Rental affordability has not improved in the wake of the financial crisis. Indeed, renter incomes have fallen more than housing costs, leaving more renters with housing cost burdens than before the recession. Large majorities of lowest-income renters pay more than half of their meager incomes for housing. While not as severe, rent burdens have also risen sharply among renters toward the middle of the income distribution.

The affordability crisis has now spread to virtually all of the 100 largest metropolitan areas in the country. Moreover, the supply gap—the difference between what low-income households can afford to pay for rent and the number of rental units affordable and available at those levels—continues to widen.

Falling Incomes, Rising Rents and Energy Costs

Affordability has eroded over the years as renter income growth has lagged increases in contract rents (the amount paid each month to the property owner exclusive of any utility costs paid directly by the tenant) as well as in fuel and utility costs (figure 2-1). Since 1980, median household income among renters has generally risen during periods of economic expansion, but then given back all of these gains during subsequent recessions. Following the 2001 downturn, however, real renter incomes did not rebound at all but instead dropped below their 1980 level.¹ Over this time the decline in renter incomes was widespread, affecting all race/ethnicity groups and household types (figure 2-2).

Meanwhile, contract rents have risen in real terms by more than 16 percent since 1980. After climbing for much of that decade, contract rents entered a period of sustained decline through the mid-1990s. But with renter incomes falling even more sharply over this period, the gap between rents and incomes actually widened. From 1996 through

¹ One question of interest is whether the decline in renter incomes is simply an artifact of rising homeownership rates in recent years, with moves to homeownership siphoning off higher-income renters and reducing the median income among the remaining pool of renters. But the change in the level and distribution of income alone in 2000–9 would have reduced real median renter income by 8.3 percent, rather than the 11.1 percent that actually occurred. Thus, about three-quarters of the observed change in median renter income is due to falling real incomes and changes in the distribution of income over this period. Only about a quarter of the change reflects changes in ownership rates by income.

2003, rent increases consistently outpaced overall inflation, with real rents up 1.0 percent per year on average. Although real median renter income grew between 1995 and 2000, closing some of the gap with rents, income fell again after 2001. Although real rents also fell from 2004 through 2008, averaging just 0.2 percent annual increases, they jumped again in 2009 even as renter incomes fell.

High fuel and utility costs have also contributed to deteriorating affordability over the last decade. For much of the 1980s and 1990s, falling real energy costs helped to close the gap between rent and income growth, dropping to 84 percent of their 1980 level in 1999. Fuel and utility costs then shot up to 112 percent of their 1980 level in 2008. Although the recession dampened further increases, energy prices remain elevated. In real terms, household fuel and utility costs were up 27.1 percent from 1999 to 2010—3.7 times the increase in rents.

In 2001, tenant-paid utilities accounted for 17.8 percent of gross rents. By 2009, this share was 20.1 percent. While all renters saw increases, the lowest-income households were especially hard hit (figure 2-3). For renters in the bottom income quintile, energy costs as a share of gross rent climbed 3.3 percentage points, from 22.6 percent to 25.8 percent. The middle income groups saw the smallest increases, with only a 1.1 percentage point increase for renters in the middle income quintile. The larger relative impact of utility costs on lower-income renters reflects the fact that these tenants generally pay lower rents, and also that lower-rent units are often in older, less energy-efficient buildings. Nevertheless, renters with low incomes are clearly under greater pressure from rising energy costs than renters with higher incomes.

Updates to Traditional Affordability Measures

In their seminal study of rental housing, Quigley and Raphael (2004) examined changes in three common measures of affordability from 1960 to 2000: (1) median rent-to-income ratio, (2) share of renters paying more than 30 percent of income for rent, and (3) share of occupied rental units with rents below 30 percent of median renter income. Each of these

measures has advantages and disadvantages that relate primarily to the availability of data as well as their sensitivity to changes in the distribution of incomes or rents.²

Extending the Quigley–Raphael analysis to 2000–9, it is clear that the long-term deterioration in rental affordability accelerated in the last decade (figure 2-4).³ This acceleration was apparent even before the onset of the recession. The median rent-to-income ratio shows the smallest rise, from 19 percent in 1960 to 30 percent in 2009. This modest increase is not surprising given that the ratio only captures changes in the middle of the renter distribution. In contrast, the share of renters paying more than 30 percent of income for rent more than doubled over the same period, from 23 percent to 50 percent. The share of units with rents below 30 percent of median renter income also declined sharply from 83 percent in 1960 to 43 percent in 2009.

All three measures identify the 1970s and 2000s as decades when affordability fell significantly. The median rent-to-income ratio rose by 5 percentage points during the 1970s and then by another 4 percentage points between 2000 and 2009. Together these two increases account for 82 percent of the total rise in the ratio over the past half-century. Similarly, the share of units affordable at 30 percent of median renter income plunged by 14 percentage points in the 1970s and another 19 percentage points in the 2000s. This measure also posted a 7 percentage point decline in the 1980s.

Meanwhile, the share of cost-burdened renters—that is, paying more than 30 percent of income for housing—has risen more or less steadily from decade to decade, with increases of 8 percentage points in the 1970s and 10 percentage points in the 2000s. Since this measure of cost burdens encompasses changes in the circumstances for all renters rather than just the median renter, it is the most sensitive gauge of changes in affordability over time.

² See appendix B for a discussion of the evolution of affordability measures using the 30 percent of income standard.

³ This analysis uses the American Community Survey, which has income and housing cost questions that are consistent with the decennial census. While the values for 2000 do not exactly match those reported by Quigley and Raphael, the estimates are similar. As in the original calculations, the analysis excludes no cash-rent households; includes zero- and negative-income households; and defines income quintiles using all households (owners and renters).

In 1960, most lowest-income renters were already paying well over 30 percent of income for housing. Even so, the share of cost-burdened renters in the bottom quintile was up to 82 percent in 2009 (figure 2-5). Even more telling for this group, the median renter in the bottom income quintile spent 47 percent of income for housing in 1960 and 64 percent in 2009.⁴

But rent burdens are not just a problem for the poorest households. Indeed, affordability challenges for households in the lower-middle income quintile have increased the most over the past 50 years. The share of renters in this group paying more than 30 percent of income for housing jumped from 21 percent in 1960 to 58 percent in 2009. The increase in the share of cost-burdened renters in the middle income quintile was also noteworthy, up nearly sixfold from 4 percent to 23 percent.

Quigley and Raphael decomposed the third measure of affordability—the share of units affordable at 30 percent of median renter income—into changes in rent and changes in renter incomes to analyze the contribution of each. Updating their analysis indicates that while rents rose fairly consistently over the entire period, renter income growth offset much of these increases in the 1960s and 1990s (figure 2-6). In the 1980s, however, renter income growth failed to match the increase in rents, leading to moderate declines in the affordability measure. And in the 1970s and the 2000s, renter incomes fell significantly while rents climbed, pushing this affordability measure down sharply. In those two decades, rising rents and falling incomes thus contributed about equally to the overall decline in rental housing affordability.

Although renter cost pressures might be expected to ease in the wake of the recession, the economic downturn has instead made matters worse. American Community Survey data show that the median rent-to-income ratio for all renters climbed from 26.9 percent in

⁴ It should be noted that income measures may overstate the rental burdens these households face because they exclude noncash sources such as food stamps and Medicaid, as well as money received from the earned income tax credit. Moreover, households may understate the amount of income received in the survey. Even making allowances for somewhat higher incomes, however, the situation for the lowest-income renters is clearly dire.

2001 to 29.3 percent in 2007, and again to 30.3 percent in 2009.⁵ Over those same intervals, the share of renters paying more than 30 percent of income for gross rent rose from 41.2 percent to 46.3 percent, and then to 48.7 percent. Moreover, the share of severely cost-burdened renters (paying more than half their incomes for rent) jumped from 20.7 percent in 2001 to 24.1 percent in 2007, and then another two percentage points to 26.1 percent in 2009.

When only low-income renters are considered, the affordability challenges are even more alarming. The median ratio of gross rent to income among bottom-quintile households was 63.6 percent in 2009, and the share of these households paying more than half of their incomes for rent and utilities was 61.4 percent. The situation is worse when using other common measures of low income. For example, the rent-to-income ratio for renters below the federal poverty level was 71.0 percent in 2009.⁶

Growth of Worst Case Needs During the Recession

Another common measure of housing affordability is the share of renters facing “worst case needs.” The Department of Housing and Urban Development (HUD) defines these households in its biennial report to Congress as renters that are unassisted, earn less than 50 percent of local area median income (AMI), and pay more than 50 percent of income for housing and/or live in severely inadequate conditions (Steffen et al. 2011).⁷ The report refers to renters with incomes below 50 percent of AMI as very low income (VLI) and renters with incomes below 30 percent of AMI as extremely low income (ELI). The

⁵ In these calculations noncash renters are assumed to be unburdened, while renters with zero or negative incomes are assumed to be severely burdened.

⁶ Following a directive of the Office of Management and Budget, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than the family’s threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

⁷ While by definition worst case needs households do not include those receiving rental assistance, in the discussion that follows we do describe the cost burdens and housing adequacy situation of assisted renters as well.

ELI category corresponds roughly with renters with incomes below the federal poverty level.⁸

The following analysis draws on HUD's worst case needs methodology.⁹ As the recession took hold, the number of worst case needs households jumped from 6.2 million in 2007 to 7.8 million in 2009. The vast majority of these renters were severely cost burdened but lived in adequate housing. Only 4 percent had both severe cost burdens and structurally inadequate units, while another 2 percent lived in inadequate housing but were not severely cost burdened.

Some 58 percent of unassisted VLI households faced worst case needs in 2009 (figure 2-7). The problem is even more widespread among unassisted ELI renters, affecting more than four-fifths of these households. Devoting such a huge fraction of their meager incomes to housing leaves these renters with little left to pay for the basic necessities of life, including food, clothing, and health care.

And receiving assistance does not guarantee relief from housing cost burdens. About one in four VLI households receive some form of rental assistance.¹⁰ But even within this group, rising rent and utility costs have absorbed increasing shares of income. In part, this

⁸ These income categories are defined in terms of HUD-adjusted local area median family incomes, with the areas corresponding to either specific metropolitan areas or to nonmetropolitan areas of states. Income levels are determined with a lag and may not fully track rapid changes in the economy. For example, the number of households with incomes below 50 percent of AMI increased by 3.1 million between 2007 and 2009, while the number with incomes above 50 percent of AMI decreased by 1.8 million.

⁹ This analysis yields different numbers and shares of worst case needs renters than HUD because of differences in some of the definitions used. For consistency with other Joint Center reports, the American Housing Survey (AHS) is reweighted to match American Community Survey totals by household type and age and race/ethnicity of householders. Noncash renters are assumed to be unburdened, while households with zero or negative incomes are assumed to be severely burdened. Assisted renters in this analysis reported that they lived in public housing; had housing vouchers; were in a federal, state, or local government housing program; were assigned to their housing units; or were required to certify income to determine their rent. This definition is more inclusive than the one used by HUD in its Worst Case Needs report.

¹⁰ Information on the number of federally subsidized households is fragmentary and inconsistent. Some households benefit from multiple programs (e.g., have vouchers and live in tax credit units). As a result, simply adding the number of units subsidized under each program results in double counting. Household surveys such as the AHS also provide unreliable information because many respondents do not accurately report whether they benefit from subsidies and, if so, what type. Moreover, AHS survey questions on rental assistance changed slightly between 2005 and 2007, resulting in a drop in the number of self-identified assisted renters.

reflects a shift in rental assistance from public housing and project-based subsidies (which generally limit tenant-paid costs to no more than 30 percent of household income) to vouchers and tax credits (which often leave housing costs substantially above the 30-percent standard).

In fact, a majority (57 percent) of all assisted renter households paid more than 30 percent of their incomes for rent in 2007, and nearly a third (31 percent) paid more than 50 percent. In the aftermath of the Great Recession, the shares of assisted renters facing these burdens hit 59 percent and 33 percent in 2009. Among ELI assisted renters alone, the share paying more than 30 percent of income for housing was 74 percent in 2009 and the share paying more than half of income was 48 percent.

While the worst case needs concept allows for the possibility that renters may trade off affordability against structural adequacy, the incidence of severely inadequate housing is low and generally declined even during the recession. Among unassisted VLI renters, only 3.4 percent lived in severely inadequate units in 2009, down from 3.6 percent in 2007. When ELI renters are considered, the incidence of severe structural inadequacies is only slightly higher at 4.1 percent in 2009, down from 4.2 percent in 2007. Assisted renters face similar degrees of severe inadequacy, with 3.4 percent of assisted VLI renters living in inadequate housing in 2009, virtually unchanged from 2007, while among ELI assisted renters the share rose modestly from 3.3 percent in 2007 to 3.4 percent in 2009. Despite continuing growth in the number of renters facing affordability challenges, direct federal spending on rental assistance has dwindled. Indeed, the number of households assisted by HUD programs stalled in the mid-1990s (figure 2-8). At that point, construction of non-HUD low-income housing tax credit (LIHTC) units expanded dramatically, peaking at more than 80,000 in 2003. But tax credit units offer a shallower rent subsidy than earlier forms of project-based rental assistance. Moreover, construction on many LIHTC units was delayed or stopped in 2009 when investor demand collapsed in the wake of the financial crisis.

Metropolitan-Level Trends

The deterioration in rental affordability is evident in all 100 of the nation's largest metropolitan areas (figure 2-9). Between 2000 and 2009, the share of renters paying more than 50 percent of income for housing rose in all 100 areas, as did the share paying more than 30 percent. The magnitude of the increases in severe burden share was also noteworthy, averaging 8.1 percentage points. In 90 of these markets, shares of severely cost-burdened renters were up by at least 5.4 percentage points. Shares of moderately burdened renters rose even more, with an average increase of 11.7 percentage points. Some 90 percent of metro areas posted increases of at least 7.7 percentage points.

Consistent with the national measures, the metro-level shares of cost-burdened renters are high. In 2009, the average share of renters with moderate cost burdens in the 100 largest metros was 50.1 percent, and the average share with severe burdens was 25.8 percent. These shares do, however, vary widely across markets. The share of moderately cost-burdened renters ranged from a low of 37.7 percent to a high of 62.3 percent, while the share of severely cost-burdened renters ranged from 17.7 percent to 34.9 percent. Even so, the shares of burdened renters in roughly two-thirds of the 100 largest markets fall within fairly narrow bands. Within these bands the range in share for renters paying more than 30 percent of income for housing is 45.8 to 55.2 percent, while that for renters paying more than 50 percent is 22.7 to 29.4 percent.

Metro-level patterns in these measures are hardly intuitive. Among the areas with the 10 lowest shares of severely cost-burdened renters are several lower-cost markets such as Wichita, Kansas, El Paso, Texas, and Harrisburg, Pennsylvania. But this list also includes such high-cost areas as Washington, D.C., and Worcester, Massachusetts. Similarly, the areas with the 10 highest shares of severely cost-burdened renters include high-cost markets such as Miami, Florida, and Stockton, California, but also the low-cost areas of McAllen, Texas, and Knoxville, Tennessee. Meanwhile, some of the highest housing cost areas in the country—including New York, New York, and Honolulu, Hawaii—are in the middle of the distribution, with rental cost burdens comparable to those in such low-cost areas as Little Rock, Arkansas, and Dayton, Ohio.

There is no simple explanation for these anomalies. The variation across markets reflects differences in both housing costs and renter incomes. In some areas, high rents are offset by the presence of larger shares of higher-income renters due, for example, to lower homeownership rates. In other areas, housing costs may be low but renter incomes may be even lower. As a result, renter affordability problems are not confined to a few high-cost, densely populated coastal areas.

What is common across all metropolitan markets is that low-income renters consistently pay large shares of their incomes for housing. On average, 83.7 percent of renters in the lowest income quintile had moderate cost burdens in 2009, while 60.7 percent had severe burdens. At best, the share of renters paying more than half of their incomes for housing in all 100 metros was 42.3 percent. In 95 of these markets, more than 50 percent of renters in the lowest quintile faced severe cost burdens.

The Growing Supply Gap

The growing mismatch between the cost of rental units and renter incomes is yet another factor contributing to worsening affordability. HUD and the National Low Income Housing Coalition (NLIHC) have both used the concept of the “supply gap” to estimate the extent of this problem (Nelson et al. 2004; Steffen et al. 2011). While similar to the share of units affordable at 30 percent of median renter income, the supply gap accounts for the fact that higher-income renters often occupy low-cost rental housing.

HUD and NLIHC analyses first estimate the number of occupied and vacant rental units that would be affordable to households of various incomes, and then subtract the number of these units that are occupied by higher-income households and therefore unavailable. HUD further refines the calculation by eliminating structurally inadequate units. The affordable, available, and adequate stock is then compared with the number of households in each income category to determine the supply–demand gap.

The HUD and NLIHC analyses use income and rent categories defined in relation to local area median family income, taking into account both the size of households and the number of bedrooms in rental units. This approach reflects provisions defining eligibility and benefits under federal subsidy programs; it also recognizes that simply comparing household incomes and rents would otherwise imply that an efficiency apartment with a rent of \$300 per month would affordably meet the needs of a six-person household with income of \$1,000 per month.

Using data from the American Housing Survey (AHS), it is clear that the supply gap has grown significantly in recent years.¹¹ For example, there were 10.4 million ELI renters in 2009. At the time, 6.2 million occupied units had gross rents (adjusted for number of bedrooms) that would have been affordable to these households. Another 370,000 vacant units would also have been affordable assuming that utility costs add 15 percent to asking rents. In total, roughly 6.6 million occupied or vacant units were affordable to ELI renters in 2009.

But of these 6.6 million units, 2.8 million were occupied by households with higher incomes and were therefore unavailable. Of the 3.7 million occupied or vacant units that were affordable and available to ELI renters in 2009, 106,000 were severely inadequate. Subtracting the units with known deficiencies leaves about 3.6 million units. The number of affordable, available, and adequate rentals therefore totaled little more a third of the number of ELI renter households.¹²

Using this approach, it is possible to estimate the ratio of the 2009 rental stock to VLI and ELI renters in each of three categories (affordable; affordable and available; affordable, available, and adequate). A supply gap exists when the ratio is less than one, indicating

¹¹ The calculations assume that gross rents for vacant units are 1.15 times the asking rents. Noncash renters are not included in the affordability calculations for occupied rentals. Vacant units are considered adequate if they have full plumbing. Households with zero or negative income are included in the analysis. AMI categories are based on the values for local median income reported in the AHS public use microdata. Units rented but not yet occupied are not included.

¹² Although ELI households occupied 3.7 million “affordable” units, many of these renters paid more than 30 percent of their incomes for housing, underscoring the problem of estimating the number of affordable units based on an upper limit of an income category.

that there are more households than rentals in that category. In general, supply gaps are evident only for renters making up to 50 percent of AMI. For those households, the gap is relatively small, with the ratio of units to renters of 0.99 (figure 2-10). But eliminating the number of affordable units rented by higher-income households brings the ratio down to just 0.66. Thus, for households making less than half of AMI, the supply gap largely reflects the presence of higher-income households in many of the units they can afford.

For renters with incomes of up to 30 percent of AMI, the ratio between the number of renters and affordable units is 0.63. For this group, the increase in the supply gap because higher-income households occupy the units is smaller but still notable, lowering the ratio to 0.36. For both groups of households, structural inadequacy had only a minor impact on the supply gap.

With the rising cost of rental housing as well as increased competition for affordable units, the supply gap widened over much of the past decade. Between 2003 and 2009, the number of VLI renters rose from 16.3 million to 18.0 million while the number of affordable and available units shrank from 12.4 million to 11.9 million (figure 2-11). At the same time, the number of ELI renters jumped from 9.4 million to 10.4 million, and the number of affordable and available units dropped from 4.0 million to 3.7 million. As a result, the ratio of affordable and available units to renters fell from 0.76 to 0.66 for VLI renters and from 0.42 to 0.36 for ELI renters.

A key factor in the growing rental affordability crisis is thus insufficient supply of housing that is affordable and available to low-income households. As the next section describes, the turmoil in rental markets in the wake of the Great Recession put multifamily property owners under great financial strain, further threatening the market's ability to supply affordable units. However, with declining vacancies and strengthening rents since early 2010, the financial condition of rental properties may be improving.

3. Challenges in the Multifamily Sector

Despite recent improvements in rental market conditions, key segments of the multifamily finance market remain under stress. For much of the 2000s, debt financing was liberally available with looser underwriting based on rosy assumptions about both net operating income (NOI) and property values.¹³ With the onset of the recession, vacancy rates soared, rent growth stalled, and property values plunged, placing many owners under significant financial pressure. Indeed, delinquency rates for loans in commercial mortgage backed securities exceed those in the single-family market and have yet to show any notable decline even as other market indicators improve.

The following section examines conditions in multifamily finance markets for large Class A or B properties, generally with 30 or more units but more commonly 50 or more units. The findings presented here draw upon interviews with several industry experts—including holders of large multifamily investment portfolios, housing market analysts, and multifamily policy advisors—conducted in the first half of 2010. The interviews highlight the challenge that multifamily borrowers face in refinancing their loans in the next several years and what the resolution process might mean for tenants and their communities.

The Multifamily Boom in Property Values and Financing

The surge in large multifamily property values over the past decade was even more dramatic than in single-family home prices. Moody's Commercial Property Price Index for apartment buildings, based on repeat sales of properties worth at least \$2.5 million, surged by 95 percent from the end of 2000 to a peak in the first quarter of 2007 (figure 3-1). By comparison, the S&P/Case-Shiller Price Index for single-family homes climbed 76 percent between the end of 2000 and its peak in mid-2006.

¹³ Net operating income is rental receipts less operating costs aside from debt service.

The boom in multifamily property values was driven by several factors. Capitalization rates used to derive property valuations based on net operating income were falling during the early years of the decade, reflecting generally lower expected returns on capital and a narrowing of credit risk spreads.¹⁴ With lower capitalization rates, the same net operating income supported higher property valuations.

In addition, multifamily rental properties were attractive candidates for conversion to condominiums to take advantage of soaring single-family home prices. In many cases, units in high-end properties were worth more when sold as condos than when rented as apartments (see text box for property classifications). Later in the boom, this belief spread to middle-market apartments as well. Properties began to change hands not on the basis of their fundamental value as rental housing, but of their speculative value when converted to homeownership. This put upward pressure on appraisals, and the potential for large short-term profits attracted huge amounts of capital.

With these factors fueling asset inflation, demand for mortgage finance surged. Ample liquidity existed to meet rising demand at attractive interest rates. Indeed, the availability

Multifamily Property Classifications

Multifamily industry participants refer to market-rate rental properties according to class A, B, or C. While these terms have no rigorous industrywide definitions, the following describes common distinctions among the three property classes.

Class A, usually synonymous with “investment grade,” generally refers to properties that are new (no more than 10 years old), located in a primary market (population of at least 2 million), include 200 units or more, and have finish quality that represents the top of their markets.

Class B generally refers to properties that are somewhat older than class A properties, located in secondary market areas (with populations of 500,000 to 2 million), include 100–200 units, and/or may have typical rather than top-of-market finish quality.

Class C generally refers to properties that have one or more of the following flaws: more than 20 years old; located in a tertiary market (population below 500,000), a weak secondary market, or a submarket generally considered undesirable for investment; and finish quality reflecting more than 20-year-old standards.

¹⁴ Capitalization rates, or “cap” rates, is the ratio of first-year NOI to the property acquisition price. Capitalization rates are inferred by appraisers and market analysts who examine actual sales. Cap rates from recent sales are then used to estimate the price at which similar properties might be expected to sell. Generally, capitalization rates fall with interest rates as a given NOI will support greater debt levels. Cap rates will also be lower if NOI is expected to increase over time, again supporting higher debt levels.

of low interest rates also helped to push up asset values given that the same cash flow would support higher debt levels.

After remaining essentially flat from 1975 until 1998, multifamily lending began to climb steadily (figure 3-2). The amount of outstanding debt increased from the end of 1998 until the end of 2008 by an average of \$42 billion annually, with the total amount nearly doubling over this period in real terms.

Over this same period, federal and government-sponsored agencies (GSEs) accounted for 48 percent of the net increase in outstanding debt (figure 3-3).¹⁵ Indeed, the GSE share of the market swelled from 19 percent to 33 percent. By the end of 2008 commercial banks were roughly twice as important as CMBS (categorized as the more generic “asset-backed securities” in the Flow of Funds data) in adding to the stock of multifamily debt, accounting for more than a third of the increase. On net, the other principal sources of multifamily loans—including savings institutions, state and local governments, and life insurance companies—saw little real change in the volume of their outstanding multifamily loans.

After the economy soured in 2008, the GSEs became an even more important presence in the market. According to the Federal Reserve’s flow of funds estimates, the volume of outstanding multifamily loans held or guaranteed by the GSEs increased by \$35 billion in real terms while the volume for all other financing sources combined dropped by \$20 billion between the fourth quarter of 2008 and the fourth quarter of 2010.

Recession Fallout

The onset of the Great Recession brought the multifamily boom in property values to an abrupt end. One of the most obvious indicators of market distress was the jump in vacancy rates for most types of properties. After edging up in 2008, the overall rental vacancy rate jumped to 10.6 percent in 2009—the highest level recorded since the Census

¹⁵ *Federal agency* refers to Ginnie Mae while *government-sponsored enterprises* (GSEs) include Fannie Mae, Freddie Mac, and the Federal Home Loan Banks.

Bureau began tracking this information more than 50 years ago. The increase in vacancies was concentrated in properties with at least five units, with the rate for buildings with five to nine units reaching 11.4 percent and the rate for buildings with 10 or more units, 12.7 percent (figure 3-4). In contrast, vacancy rates for single-family rentals and two- to four-unit buildings held at near-record levels of 9.8 percent and 9.3 percent.

The rise in rental vacancy rates is somewhat surprising given the modest number of multifamily housing starts—which includes most units intended for the rental market—over the last decade. Between 2007 and 2008, multifamily starts remained near 300,000 units a year, well below 1970s and 1980s peaks. Indeed, large shares of multifamily housing completed in 2005–8 were either aimed at the owner market (37 percent) or supported by the low-income housing tax credit (25 percent). In short, the volume of market-rate multifamily construction intended for the rental market in the years leading up to the recession could hardly be called excessive when it is considered that the rental housing supply normally lost to disasters, demolitions, and abandonment is on the order of 100,000 units per year.

When the recession hit, multifamily housing starts declined sharply even as the crisis in homeownership markets boosted demand for rentals. Housing Vacancy Survey (HVS) data show that the average annual increase in the number of renters exceeded 675,000 from 2005 through 2010. Nevertheless, rental vacancy rates rose as many previously owner-occupied units shifted into the rental market. According to the AHS, the number of renters living in single-family homes increased by 1.7 million between 2005 and 2009. In contrast, there was a net decline in single-family renters in the four years prior to 2005.

But while the number of single-family units in the rental stock has increased, the vacancy rate in this market segment has not. Instead, the changing composition of renter households has apparently supported stronger demand for single-family units at the expense of larger multifamily properties.

The recession also had a negative effect on rents. Although the consumer price index did not show a decline in contract rents, a variety of evidence indicates that rents and net operating incomes for investment-grade multifamily properties did in fact fall during the recession. For instance, according to data collected by MPF Research nominal rents for a sample of large investment-grade properties fell an estimated 4.1 percent nationally from the fourth quarter of 2008 to the fourth quarter of 2009.

With this deterioration in market conditions, along with rising capitalization rates, multifamily property values plummeted as the recession unfolded. Moody's index of multifamily values declined by 40 percent from its peak at the start of 2007 to a trough in the third quarter of 2009. This drop is even sharper than that in single-family prices, with the Case-Shiller index showing a 32 percent peak-to-trough decline.

But there are signs that the worst may be over, at least for large multifamily properties. Vacancy rates in the last quarter of 2010 were down 1.3 percentage points overall from the 2009 level and 2.2 percentage points among structures with 10 or more units. Rents in large apartment buildings were also back on the rise, with MPF Research reporting a 2.3 percent year-over-year increase in nominal rents in the fourth quarter of 2010. Moody's index also shows a 20 percent rebound in large multifamily property values from a third-quarter 2009 low to the end of 2010. It should be noted, however, that property values were still 28 percent below peak levels. In addition, it is unclear whether the recovery extends to other multifamily segments.

Rental market conditions vary considerably across metropolitan markets. According to HVS data, from the end of 2006 to the end of 2010 vacancy rates rose in 37 of the nation's largest 74 metro areas, with the sharpest increases in some of the most overbuilt markets. Orlando, Florida, tops the chart with a surge in vacancy rates from 6.8 percent to 23.6 percent over this period. Increases in Dayton, Ohio (11.1 percentage points), Memphis, Tennessee (8.5 percentage points), Bridgeport, Connecticut (7.2 percentage points), and Phoenix, Arizona (7.2 percentage points) were also substantial. At the same time, vacancy rates have fallen in many areas, including the Midwestern markets of

Grand Rapids, Michigan (-20.9 percentage points), and Indianapolis, Indiana (-11.1 percentage points), as well as some markets in the South and the West, such as Birmingham, Alabama (-12.3 percentage points), and Sacramento, California (-5.2 percentage points).

Multifamily Loan Performance

With rising vacancies, falling rents in many segments, and plunging property values, delinquency rates for multifamily loans began to rise in 2008 and then turned up more sharply in 2009. Loan performance, however, varies considerably by class of investor. The share of multifamily loans held in private mortgage-backed securities that were 60 or more days delinquent or in some stage of foreclosure climbed to 7.3 percent at the end of 2009 and to 14.0 percent at the end of 2010 (figure 3-5). Meanwhile, the 90-day delinquency rate for multifamily loans held by banks and thrifts rose from 1.8 percent at the end of 2008 to a peak of 4.7 percent in the third quarter of 2010 before easing.

Delinquency rates for multifamily loans held by Fannie Mae and Freddie Mac have increased much more modestly. The share of Fannie Mae loans that were 60 or more days delinquent or in foreclosure rose from less than 0.10 percent at the start of 2008 to 0.80 percent in the second quarter of 2010. The increase for Freddie Mac loans was even smaller, from 0.04 percent to 0.28 percent. While these gains are large in percentage terms, overall delinquency rates for GSE loans are only a fraction of those for multifamily CMBS.

Interviews with market participants highlighted several factors contributing to the poor performance of multifamily loans. During the lending boom of the early and mid-2000s, lenders competed vigorously in what one interviewee called a “feeding frenzy.” Not only were loans available with unusually attractive debt service coverage ratios (DSCRs) and loan-to-value ratios (LTVs), but lenders often made aggressive assumptions about future net operating income growth, which supported more lenient DSCRs and LTVs at origination (see text box for detailed definition of these terms). Individuals interviewed for this report were most familiar with underwriting standards for loans destined for

CMBS, but they noted that, given their relatively high delinquency rates, banks were also likely to have deviated from traditional underwriting practices during this period.

The structure of CMBS helped to drive demand for multifamily loans. A CMBS pool consists of hundreds of loans on office buildings, shopping centers, industrial buildings, hotels, and apartments. With such a diversified pool, properties that perform better than anticipated can offset properties that perform worse than anticipated. In addition, CMBS issuers can divide the cash flows from the pool into senior tranches (with first call on cash flows), middle tranches (with second call on cash flow, having higher risk and higher potential returns), and noninvestment-grade tranches (with very high risk but also potential for very high profits).

The senior tranches, which form the bulk of CMBS securities, receive investment-grade ratings and can thus be readily sold. Some of the middle tranches may be sold as well. The noninvestment-grade or junk tranches, while highly risky and not readily saleable, still offer the potential for truly spectacular returns. In addition, these tranches were usually allocated enough current cash flow to provide an attractive yield. As one interviewee put it, “If you bought the toxic waste, you still probably came out OK as long as the deal held together for four or five years.”

Debt Service Coverage Ratio (DSCR)

The DSCR is the ratio of net operating income to mortgage debt service. Net operating income is rental receipts less operating costs aside from debt service. Debt service includes principal payments, interest payments, and any credit enhancement costs such as FHA mortgage insurance premiums or guarantee fees.

DSCRs are most commonly expressed as a fraction (e.g., 1.20), but sometimes as a percentage (120%). The more that the DSCR exceeds 1.00 or 100%, the greater the likelihood that net operating income will fail to achieve expected levels. For multifamily properties, loans with DSCRs of 1.20 and above are commonly regarded as relatively low risk; those with DSCRs below 1.10 are at moderate risk; and those with DSCRs below 1.00 are troubled, because net operating income is inadequate to cover the monthly mortgage payment. During the lending boom, initial DSCRs of less than 1.20 were sometimes accepted under the assumption that future growth in NOI would raise the ratio over time.

Loan-to-Value Ratio (LTV)

The loan-to-value ratio is the ratio of loan amount to property value. If the lender has to foreclose on a property, the proceeds from the sale will be used to meet the outstanding mortgage obligation. Lower LTVs provide greater ability to meet the transaction costs of the sale and to insure against a drop in property value. For multifamily buildings, LTVs at or below 75% are usually considered relatively low risk; between 75% and 85% as moderate to high risk; and above 85% as posing high risk of potential loss to the lender. During the boom, initial LTVs of more than 75% were sometimes accepted under the assumption that future increases in property values would increase the LTVs.

Multifamily loans were popular with CMBS issuers and ratings agencies because their cash flows are much more stable and predictable than those from office buildings, shopping centers, hotels, and industrial buildings. As a result, issuers had powerful incentives to make multifamily loans because they added so much value to the CMBS pool. The result was a surge in multifamily loans with high LTVs and low DSCRs on decidedly below-average properties. In the CMBS world, borrowers with reasonable prospects of making payments for at least the first four to five years were highly sought after, with almost no regard for their ability to repay the debt in the long term.

This aggressive underwriting put many properties in a tenuous financial position even before the recession. When the economy stalled, changes in rents turned negative on some properties, concessions (for example, a rent-free period at the beginning of the lease) were widespread, and vacancy rates mushroomed. At the same time, operating expenses continued to rise with inflation (or more commonly, had been underestimated by the lender and borrower). As a result, NOI dropped or, for new properties, was lower than predicted. With loan underwriting providing little margin for error, these financial challenges left owners unable to meet their debt service requirements. Several borrowing scenarios that were common during the period of relaxed underwriting, such as loans made in anticipation of converting the apartments to condominiums or the repositioning of a property to a higher rent segment through significant planned investments, were especially likely to become troubled.

The GSEs appear to have avoided the race to the bottom with CMBS issuers and depository institutions. Part of the reason may be that the GSEs, and Freddie Mac in particular, experienced high losses on multifamily loans in the early 1990s and therefore employed stricter underwriting during the lending boom. In addition, the GSEs fund loans either by creating a mortgage-backed security that they guarantee and then sell to investors, or by holding the loans in portfolio (although fewer loans are held in portfolio now). In either case, the GSEs face risk of loss if the borrower defaults and the proceeds of resolution are insufficient to repay the loan. Fannie Mae also generally shares this credit risk with the originating lenders, regardless of whether the loan is securitized or

held in portfolio, which provides an incentive to originate loans that are less likely to default.

Other steps the GSEs have taken to reduce risk include focusing on Class A or B market-rate properties with demonstrated ability to achieve the NOI necessary to meet the loan's debt service requirements. A GSE will typically finance newly constructed properties only after they are fully leased up and have generated an adequate level of NOI. In addition, GSE loans typically have debt service coverage ratios of 1.25 or better and loan-to-value ratios of 80 percent or less, much stricter than the underwriting standards evident among CMBS loans.

Maturing Loan Challenges

In recent years, it became increasingly common for apartment loans to have 25- or 30-year amortization periods (the period over which the loan would be fully paid off) but maturity periods of only 5 to 10 years (the date at which the loan must be repaid). The advantage for the borrower comes mainly in the form of a lower interest rates. For the lender, a relatively short maturity minimizes the risk of undermaintenance and makes it easier to reassess at the time of loan renewal what to require in terms of cash reserves for replacements.

The relatively large volume of short-term loans has raised concerns about an impending crisis in the multifamily market now that underwriting standards have returned to the normal to conservative range. Property owners may find that these loans, which were originated using relatively liberal underwriting standards, may be difficult to refinance now that both NOI and property values have fallen.

The magnitude of this problem is unclear, although it appears to be most concentrated among CMBS and depository loans. For example, a Deutsche Bank Special Report (2009) estimated that about two-thirds of commercial real estate loans, including multifamily loans, financed with CMBS and coming due in 2009–18 would be unable to refinance at maturity. Based on Federal Reserve Board data, however, loans in asset-

backed securities accounted for about 13 percent of outstanding multifamily mortgage debt at the start of 2010.

A recent report by the Mortgage Bankers Association (2010) on the distribution of multifamily mortgages by year of maturity also provides insight into the potential magnitude of the problem. The MBA surveyed holders of commercial mortgages, providing fairly good coverage of loans in CMBS, held by life insurance companies, or owned or guaranteed by the GSEs and the Federal Housing Administration (FHA), but did not provide information on maturities of loans owned by commercial banks and savings institutions. The results indicate that 15 percent of outstanding multifamily loans would mature between 2010 and 2012, with an additional 23 percent maturing by 2015. Thus, nearly two-thirds of outstanding mortgages will not come due until 2016 or later, including more than a quarter that will mature sometime after 2020. Loans guaranteed or held by the GSEs or FHA faced less maturity risk than other classes of loans, with only 30 percent of these loans maturing before 2016.

Even so, loans that do mature before then will encounter challenging market conditions for refinancing. Both the lender and the property owner face a high risk of loss, although the degree of risk varies from situation to situation. Take the example of a 200-unit market-rate property that was financed in 2004 using prevailing underwriting criteria (figure 3-6). The loan has a seven-year maturity and must be refinanced in 2011. In the best-case scenario (A), the outcome is what the lender and borrower had hoped for, with NOI growing at projected rates. The other three scenarios illustrate the increasing financial stress induced by lower-than-expected NOI.

In the most benign scenario (B), rent growth is slower than expected, expenses higher than expected, and vacancy rates are elevated in 2011. The resulting NOI cannot support a new loan sufficient to pay off the existing debt. The borrower would likely have to sell the property, invest new equity capital, borrow expensive second-mortgage debt, or take a combination of these steps to repay the lender. Alternatively, the lender might agree to extend the loan.

In the middle scenario (C), the financial stresses from scenario (B) are exacerbated by greater growth in operating expenses. In this case, the borrower can only secure an amount well below the existing loan balance. In addition, the property value has declined enough that the borrower has probably been wiped out and the lender is likely to lose money during a foreclosure or workout process.

In the worst-case scenario (D), rents have declined, expenses have increased more than expected, and the vacancy rate is higher in 2011. In this case, the amount the owner can borrow is less than half the existing loan balance, indicating that the borrower has been wiped out and that the lender would almost certainly suffer a large loss.

Troubled Loan Resolution Process

Owners typically stop making mortgage payments when all three of the following conditions have occurred: (1) NOI is inadequate to cover the mortgage payment, (2) the property's reserves are inadequate to cover the mortgage payment, and (3) the owner cannot afford to advance funds from other sources to cover the mortgage payment. Several factors make it difficult to predict defaults prior to loan maturity. For example, owners will usually put funds into a property, even if cash flow is negative, if they believe there is real equity to protect. Even when there is no equity in the property, owners may advance funds to protect equity in other properties they own, recognizing that any loan default dramatically reduces the potential for future financing. Only owners know the amount of capital available for investment as well as the financial condition of the rest of their portfolios. Defaults do, however, tend to rise as a financial crisis worsens, with owners of large portfolios exhausting their ability to support their properties and defaulting on multiple loans at once.

Lenders always bring in a resolution team when an owner stops making mortgage payments or when it becomes apparent that a short-term loan will not be repaid at maturity. Lenders often bring in their resolution teams even earlier, based on early warning systems and risk rankings. Lenders can take a variety of measures to resolve a

delinquency short of foreclosure, including granting temporary forbearance to borrowers until they can make up missed payments, modifying loan terms, and agreeing to a short sale or discounted payoff (see text box for description of typical resolution options). Lenders begin their evaluation of resolution options by looking at the causes of the delinquency:

- a failed repositioning strategy where the property's value is not expected to rise to the level hoped for when the loan was made;
- market weakness that appears temporary where some recovery of value can reasonably be expected over the next few years;
- market weakness that appears to be longer term, and so recovery of value is not expected for the next few years;
- physical problems, such as a structural defect in a building's foundation, requiring capital investment to correct;
- inadequacies in management for handling the property in challenging market conditions; and
- inadequacies in ownership, for example, where owners may be undermaintaining the property

Another important factor in a lender's evaluation is whether there are reasons to avoid assuming ownership. Those reasons might include litigation risk or liability from environmental contamination that requires remediation.

If the owner and management company are found to be doing their best in a difficult market, the lender may pursue a resolution short of foreclosure. But if there are deficiencies in ownership or management, a change in ownership—forced through a foreclosure—may be the best option. In making this decision, lenders also consider state laws concerning foreclosure and receivership that make the process more or less costly. In addition, decisions about how and when to report the financial impact of a default and workout are important factors in the negotiations. For example, a liquidation approach usually leads quickly to definitive measurement of the lender's loss. In a workout, however, the lender, its auditor, and its regulator have several decisions to make about

how to measure the loss and when to recognize the loss for accounting purposes (see text box for more on loan resolution).

Typical Multifamily Loan Resolution Options

The following are the major types of resolutions for troubled multifamily loans. Some involve litigation or other legal action.

Temporary forbearance. The simplest approach to resolving a delinquency is to grant the borrower a period of time during which partial loan payments are allowed while financial issues are addressed. The accrued missed payments are then made up over time through additional monthly payments.

Loan modification. The lender and borrower agree on revised loan terms to accommodate any missed payments and/or to make future payments more affordable. These changes may include an extension of the loan term or amortization period, a change to the interest rate, or a deferral of part of the monthly payment.

Loan sale. The lender may sell the defaulted loan, typically to a sophisticated investor who specializes in troubled property resolution. The sale price will typically be less than the amount of the outstanding loan balance and accumulated interest and fees, which may allow the purchaser more options for modifying the loan terms without the buyer of the loan incurring a loss. While a loan sale resolves the delinquency from the perspective of the lender, it does not resolve the borrower's dilemma.

Consensual short sale. The lender and borrower agree to sell the property to a third party for less than the total amount of the indebtedness with the lender receiving all or nearly all of the proceeds. The lender also generally agrees not to hold the borrower accountable for any losses.

Discounted payoff. Similar to a short sale, the lender agrees to accept a payment from the borrower/owner that is less than the amount owed, in full satisfaction of the debt.

Receivership. The court appoints a qualified third party, affiliated with neither the borrower nor the lender, to hire and oversee property management while the resolution process unfolds. Lenders often seek receivership at the same time they apply to foreclose to avoid the risk that the borrower may undermaintain and/or undermanage the property in the short term.

Nonjudicial foreclosure. Some states allow the lender to force a foreclosure sale relatively quickly. In simplest terms, a nonjudicial foreclosure process does not involve the courts, provides the lender strong rights, and gives the borrower/owner relatively few rights. The lender does not, however, seek a deficiency judgment in which the borrower is personally responsible to repay the lender for any loss.

Judicial foreclosure. Under this process, the lender and borrower/owner attempt to persuade a judge whether a foreclosure should or should not be allowed. In some states, this type of resolution is the only option available. In a judicial foreclosure, the lender intends to seek a deficiency judgment.

Available information about resolutions of delinquent CMBS loans suggests that the process often results in significant losses to lenders. For example, Real Capital Analytics (2010) reports recovery of between 48 cents and 69 cents on the dollar for 394 CMBS mortgages liquidated (foreclosed or sold) since the start of 2009 until early 2010. These

results, however, cannot be taken as a general estimate of the losses to be incurred on delinquent multifamily loans because the figures include commercial real estate loans of all sorts. More important, liquidated loans represent cases where lenders had little hope of recovering losses through future growth in NOI and are therefore apt to be loans on severely underwater properties.

In cases where a workout short of foreclosure is pursued, it is impossible to assess losses until sometime after the workout is entered into. In their analysis, Real Capital Analytics estimated that a total of \$7.7 billion in loans were liquidated and well over \$10 billion in loans were resolved through workouts. Thus, a majority of delinquencies are likely to be resolved short of foreclosure. Lenders who pursue workouts clearly expect lower losses over time than they would incur through liquidation, but only time will tell whether that expectation is realized.

Risks to Tenants

According to interviewees, renters in multifamily properties are less at risk of eviction upon foreclosure than tenants of single-family rentals (which include one- to four-unit properties). As the single-family foreclosure crisis mushroomed in 2008, significant concerns were raised about the impact of the crisis on renters as a significant share of properties were either rented out by investors or occupied by owners and their tenants. In these cases, lenders routinely evicted tenants upon foreclosing on the properties to prepare the units for sale. These evictions often occurred with little notice, with tenants unaware that a foreclosure was pending. In early 2009, the National Low Income Housing Coalition (Pelletiere 2009) estimated that about 40 percent of households affected by foreclosures were renters. In May of that year, President Obama signed into law the Protecting Tenants at Foreclosure Act, requiring that owners of foreclosed properties provide tenants at least 90 days notice before they can be evicted. If the tenant has a lease for a longer period, the owner must honor the lease. If the new owners intend to occupy the property as a primary residence, however, they can give tenants 90 days notice that they have to move. While not without its flaws (including a lack of direction regarding the nature of the notice and a lack of enforcement mechanisms), the law

expanded tenants' rights and thus helped to ease concerns about the abrupt displacement of tenants by foreclosures.

Market participants interviewed for this report thought that the increase in multifamily foreclosures and workouts would not result in a heightened risk of eviction for lease-compliant tenants. Indeed, lenders or purchasers want to retain rent-paying tenants to maintain cash flows. But with continued high unemployment, large numbers of tenants are likely to have difficulty meeting their monthly rent obligations and so face a higher risk of eviction. While in some cases struggling homeowners can tap a number of federal mortgage modification programs to make their payments more affordable, there are no equivalent efforts to help financially distressed renters.

Rather than eviction, the primary risk to tenants from the multifamily debt crisis is that property owners will fail to invest adequately in their buildings and that housing quality will decline. Rental housing relies primarily on market mechanisms to discipline owners to maintain their properties, with enforcement of local housing codes a secondary mechanism. Those interviewed for this study expressed the view that market mechanisms are generally quite effective: owners provide adequate maintenance because failing to do so makes their properties less appealing to tenants.¹⁶ As a property deteriorates, good tenants leave and new tenants are harder to attract. In this way, owners find that the resulting loss of revenue overshadows any savings from reduced maintenance costs.

But for properties at the lowest rent levels, the market mechanisms are relatively weak because many tenants are unable to reward better maintenance with additional rent. Rents tend to be marginally above the owner's out-of-pocket costs (for example, for taxes and insurance), which in turn means that properties have relatively little real economic value. Owners of this low-end stock therefore have less incentive to invest in property operations and maintenance.

¹⁶ Adequate maintenance in this context means maintenance at least good enough to keep good tenants from moving out. It does not denote compliance with any particular external standard, and may well be a lower standard than tenants prefer. Similarly, for owners who accept housing choice vouchers, failure to meet the Section 8 maintenance standards will lead to the loss of rent-paying tenants.

Moreover, if property owners have little income left after paying debt service, they may feel they have little choice but to reduce maintenance activities. And if the property's value has dropped well below the amount of the mortgage, the owner may see no benefit in continuing to maintain the property but considerable advantage in reducing expenses to maximize short-term net operating income. Lenders that were interviewed were unanimous in citing undermaintenance as a sign of a bad borrower and stated that they would seek to remove the property from that owner's control.

Countering the incentive to manage properties for short-term gain is the risk to reputation from pursuing this strategy. For owners with a long-term interest in the industry, the decision to adequately maintain a financially stressed property is relatively easy because doing so preserves their chances of obtaining loans once the crisis is over.

Even so, the lenders participating in this study expected that a material fraction of financially stressed property owners would undermaintain their properties. And the longer a property is in the hands of a financially strapped owner, the greater the risk that tenants will suffer from inadequate maintenance of that property. As result, the lenders argued that there is justification for a public policy to accelerate the resolution process for troubled rental properties.

Factors Affecting the Outlook for Multifamily Finance

Most multifamily market experts interviewed for this report expected loan delinquency rates to continue to rise into 2011. But they cited several factors that would influence the pace and form of loan resolutions—in particular, the federal government's regulatory stance. In 2009, regulators did not pressure lenders to liquidate troubled loans and properties. As a result, most lenders took an “extend and pretend” approach (i.e., extend the maturity of the loan and pretend there is no problem) to help to reduce the volume of foreclosed rental properties. While regulators' stances could change, there was no indication that this was likely at the time interviews were conducted.

Another factor that may help limit multifamily defaults is that many owners refinanced during the recent lending boom and took out large amounts of equity in cash. If those loans are now in trouble, the owners may still be able to support their loans rather than default. In contrast, owners who purchased properties in the early to mid-2000s may be less able to repay their troubled loans.

Interviewees also pointed to signs that the rental market was beginning to recover even as of mid-2010, although it was too soon to tell how strong and sustainable the rebound would be. Since the interviews were conducted, vacancy rates have eased from their record highs, while rents are recovering. But given that the rental sector is fundamentally tied to job growth and consumer confidence, its recovery depends on avoiding a double-dip recession and on restoring labor markets.

On the positive side, while there was overlending on multifamily properties in the early to mid-2000s, interviewees felt that there was no overbuilding. Moreover, prospects for renter household growth are bright over the next several years as the echo-boom generation ages into prime household formation years and declining homeownership rates have not yet bottomed out. Interviewees generally expect the current surplus of single-family homes for sale or for rent will be absorbed over the next few years, bringing rental vacancy rates down from current highs.

One of the lessons from the multifamily loan crisis in the late 1980s and early 1990s is that current conditions provide an opportunity to create large pools of capital to acquire troubled loans and properties. Because the prior crisis was followed by an extended period of strong multifamily performance, many industry participants expect a similar recovery. Indeed, interviewees reported that a large stock of capital is available for equity and debt investment, although lenders are targeting high-quality properties in well-above-average markets, at prices reflecting today's lower levels of NOI. At the same time, the financing environment for less attractive multifamily properties and those located outside of select large markets will likely remain difficult.

4. Summary

The Great Recession brought new financial stress to renter households and rental property owners alike. Although the economic downturn brought rent and energy price increases to a halt, renters' incomes fell even more sharply. As a result, the plight of low-income renters has only worsened—not just in the past two years but over the decade as a whole. Indeed, by virtually every measure, rental affordability has been on the decline since at least 1960. During times of economic growth rental affordability generally improves as renters incomes rise, with much of these gains then given back during subsequent recessions. In keeping with this pattern, the current recession has resulted in an increase in renters' cost burdens, but this time it has come on the heels of a decade that was already marked by the worst deterioration in rental housing affordability since the 1970s. As a result, in 2009, both the number and share of severely cost-burdened renters reached new highs. Adding to the pressures, the limited supply of rental housing affordable and available to these households continues to shrink. Record-high vacancy rates have done nothing to narrow this supply gap as broad measures of rental costs have not declined. Moreover, the affordability crisis is evident in all major housing markets of the country.

Many multifamily property owners are struggling as well, particularly those with lower-grade units so essential to meet the needs of lowest-income renters. With the recession-induced weakness in rents and declines in property values, these owners lack the cash flows to invest in the upkeep of their buildings. Undermaintenance will lead to additional losses from the already limited stock of affordable housing.

For owners of higher-grade properties, the challenge is to refinance their loans under today's stricter guidelines. Many loans originated during the multifamily market boom were based on lax underwriting standards and overly optimistic income projections. Now that property values have dropped and cash flows are constrained, loan delinquencies are on the rise. Defaults on loans held in commercial mortgage backed securities are especially high, although those held by Fannie Mae and Freddie Mac remain very low.

Lenders are keeping a watchful eye on multifamily loans to initiate a resolution process as soon as financial difficulties are evident. The workout options are similar to those in the single-family mortgage market, ranging from forbearance and loan modifications to provide owners with time to recover from their financial distress, to short sales and foreclosures. Owners of portfolios of multifamily properties are particularly motivated to work with lenders since foreclosure would limit their ability to secure financing in the future.

Moreover, interviewees for this report indicated that lease-compliant residents of distressed properties are unlikely to be evicted, given that both lenders and owners want to retain good tenants. Noncompliant renters may, however, be at increased risk of eviction once normal property management standards are enforced. A greater threat to tenants, however, is that cash-strapped owners will not adequately maintain their properties and thus reduce quality of life for residents.

On the positive side, many interviewees felt that the market had bottomed out, which has been borne out by positive trends in a number of market indicators. Indeed, investors and lenders were becoming more active in the strongest market segments, primarily high-end properties in major metropolitan areas. Nevertheless, interviewees also expected multifamily loan delinquencies to remain high as difficult financing conditions take their toll on poorly positioned properties.

In the longer run, demographic forces provide reasons for rental property owners to be optimistic about the future. The aging of the echo boom generation into the prime household formation years should give renter household growth a significant boost. While the recession has reduced the number of young adults forming independent households as well as the net flow of immigrants into the country, the economic recovery could release pent-up demand that could quickly turn the rental supply from excessive to inadequate. The wildcard is whether homeownership rates will continue to fall, propping up the flow of single-family homes into the rental market. But declining homeownership

rates would also bring additional households into the rental market along with these units. For this reason, new formation of renter households is likely to hold the key to future demand for rental housing production.

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Appendix A. Data Sources

American Community Survey

The Census Bureau's American Community Survey (ACS) has collected information from about 3 million households each year since 2005 and collected from a smaller sample in the earlier years of the decade. The large sample size allows analysis at the state and local level, and the inclusion of data on rents, utilities, and housing characteristics, along with demographic and income information, is suited to the analysis of affordability.

The Minnesota Population Center Integrated Public Use Microdata Series (IPUMS) data used in Joint Center tabulations is based on ACS samples deliberately rendered imprecise by the Census Bureau to protect the confidentiality of respondents. Only about 40 percent of the ACS responses are included in the data, and the only geographic identification is by state and public use microdata area (PUMA). The PUMAs are areas with at least 100,000 population, created for the 2000 Census in consultation with state officials. Some PUMAs are not fully contained in metropolitan areas. To estimate data for metropolitan statistical areas (MSAs) that include partial PUMAs, records from those PUMAs were included in the MSA estimates but were given reduced weights reflecting the share of the PUMA population that was in the MSA in 2009. Of the 100 MSAs in this analysis, 64 included some cross-border PUMAs, although the share of population in those MSAs that was in cross-border PUMAs averaged only 9.6 percent. The MSA with the largest share of its population in PUMAs that were not fully contained within the MSA was Worcester, Massachusetts, with 61.9 percent.

The Census Bureau reports some information for MSAs based on the complete set of responses and actual addresses. Comparisons of the Joint Center estimates produced from the microdata with the data reported by the Census Bureau illustrate the differences due to sampling and the process of aggregating PUMAs to MSAs. For the 36 MSAs that include only whole PUMAs, the total counts of households in the Joint Center estimates match Census estimates almost exactly since the weights were constructed so that the

PUMA data would match the complete sample. However, other variables, such as median rent and income, will differ to a greater extent. The 64 MSAs with cross-border PUMAs have larger differences from published tables, but differ by an average of only 0.5 percent from Census Bureau estimates of total household counts by MSA.

Other potential methods for estimating data for MSAs that include parts of PUMAs may include (1) incorporating cross-border PUMAs in their entirety, which will consistently overstate the number of households within each MSA; (2) excluding cross-border PUMAs entirely, which will consistently understate the number of households within each MSA; or (3) excluding cross-border PUMAs with less than 50 percent of population within the MSA, and including all records from PUMAs with more than 50 percent of their population inside the MSA. The third alternative is a reasonable approximation, but tests, and logic, indicate that this produces numbers that are further from the estimates calculated by the Census Bureau from the full ACS sample using nonpublic information on location than the estimates based on the reweighting of records used in our calculations.

Although the ACS data are an invaluable resource, especially for analysis at the MSA level, some aspects of the way the survey is conducted lead to inconsistencies with data from other surveys and/or with conceptual parameters for measuring incomes, rents, and housing supply.

Unlike other surveys that measure occupancy of a housing unit based on whether it was a usual or primary residence at a given point in time, the ACS counts units as occupied if someone is living there at the time he is initially contacted or when subsequent inquiries are made over a period of three months, provided that the occupant has been there for two months or expects to be there for two months, even though it is not his usual residence. This count of “current residents” leads to a reduced count of vacancies and higher numbers for occupied units, mainly appearing as more renter-occupied units.

The ACS is conducted throughout the year and information is collected about income received “during the past 12 months.” Respondents surveyed in the early months of the

year are mainly reporting income in the preceding year. Thus the ACS income data for 2009 represent a weighted average of 2008 and 2009, with most of the weight on the latter months of 2008 and the early months of 2009. An adjustment for inflation over the course of the year is incorporated in the reported income, but no adjustment is made for subsequent economic trends.

For occupied rental units, the ACS collects information on the cost of utilities in the most recent month, as well as monthly rent, allowing a gross rent to be reported. Rent data are also collected for vacant units that are on the market for rent or that have been rented but not yet occupied, but those values do not include the cost of utilities that would be paid by an occupant.

Current Population Survey/Housing Vacancy Survey

The Current Population Survey (CPS) has been conducted monthly since 1947, mainly to collect information about labor force participation and unemployment. Vacant units encountered in the CPS constitute the Housing Vacancy Survey (HVS). For vacant units, information is collected about type of vacancy (for rent, for sale, for occasional use, etc.), type of structure, year built, and, in the case of vacant units for rent, the asking rent. For occupied units, tenure information is obtained but not rent or year built, and information regarding units in structure is incomplete and unreliable.

Additional information is collected in the CPS during February to April of each year from about 100,000 distinct housing units. It asks about income in the preceding calendar year, just after people receive W2 and 1099 forms and may be preparing their tax returns. This Annual Social and Economic Supplement (ASEC)¹⁷ includes detailed questions about income received during the previous calendar year. It is thus a better-defined, and probably more accurate, measure of annual household income than the ACS, but there is no corresponding information on rents, and the sample size is not adequate for much analysis at the MSA level.

¹⁷ The supplement was previously only included in March, and is still often referred to as the “March supplement.”

The CPS is generally considered to be the best income measure among those used in this report. The Census Bureau describes the CPS as “the preferred source for national analysis”¹⁸ in a comparison of surveys that includes the ACS and ignores the American Housing Survey (AHS). The CPS asks more questions about income, in a more consistent manner, than either the ACS or AHS. Over the past decade, the income questions in the AHS and employment questions in the ACS were revised, bringing the results of those surveys more in line with the CPS but complicating comparisons with previous data.

The ACS generally shows higher income than the AHS, even without an adjustment for intrayear inflation that adds a percent or two to the income values. The ACS, however, also shows higher gross rents despite the more detailed questions in the AHS (Schwartz (2009)).

American Housing Survey

The American Housing Survey (AHS) is conducted nationwide every two years and collects very detailed information about housing units, as well as information about the households living in them. The same housing units are included each time, with newly built housing added, so that it is possible to study changes in the use of the stock over time. The national survey includes about 50,000 interviews and in recent cycles has been conducted from April to September.

The AHS does not provide a basis for much analysis at the local level,¹⁹ but the national data files include information about HUD estimates of median family income and fair market rent in the area where each sample unit is located, allowing national tabulations based on relationships to local incomes and rents rather than only relative to national medians.

¹⁸ <http://www.census.gov/hhes/www/income/method/guidance/index.html>.

¹⁹ There are also surveys of a limited number of metropolitan areas using a higher sampling rate, conducted on a rotating basis. The metropolitan-area AHS data are not included in this analysis.

The AHS also collects information from households regarding housing subsidies, although the responses may not accurately identify subsidized units. The survey results indicate, for example, that there are almost twice as many public housing units as actually exist.

The AHS data have generally shown lower income levels than other surveys (Susin 2007). In 2005 and 2007 the questions regarding income were revised, in a (largely unsuccessful) effort to reduce the extent to which income was understated in the AHS, relative to other surveys. Like the ACS, the AHS asks about income in the previous 12 months.

The HUD estimates of local area median family income that are included in the AHS files and that were used to determine eligibility and level of benefits for assisted housing were calculated differently in different years, somewhat distorting comparisons over time. For example, the HUD estimates of median family income were virtually unchanged, on average, from 2005 to 2007, even though ACS, AHS, and CPS data showed increases of 9.6 percent, 8.0 percent, and 9.2 percent, respectively, for national nominal median family income. That had the effect in the AHS data and in HUD's Worst Case Needs reports of identifying substantially fewer households with incomes below 30 percent of median in 2007 than in 2005.

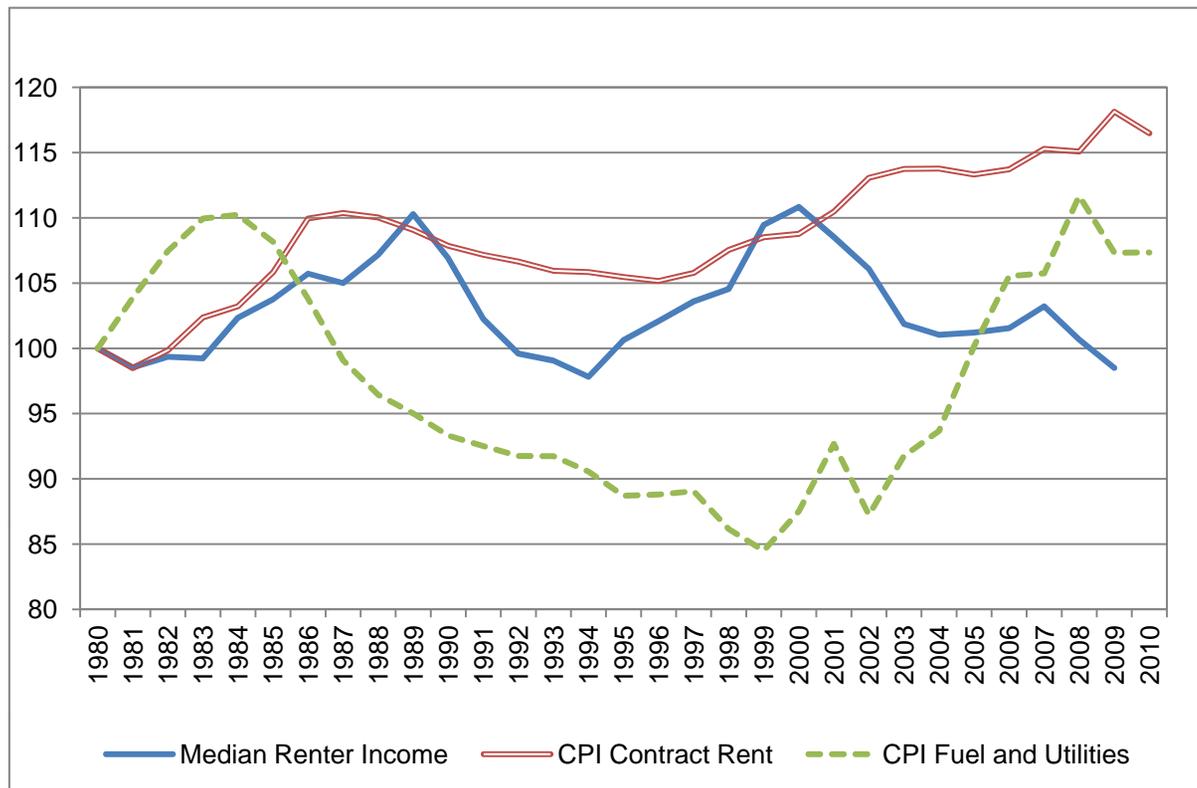
Appendix B. The Evolution of Affordability Standards

Paying 30 percent of income for rent and utilities has been the affordability standard for federal housing programs since 1981. The 30 percent standard for HUD subsidy programs was included in the 1981 Omnibus Budget Reconciliation Act. Before then, a standard of 25 percent was used, reflecting a 19th century rule of thumb suggesting “a week’s wages for a month’s rent.” The 25 percent standard was established by the 1968 Brooke Amendment. Feins and Lane (1981) report that “In the late 1880s the well-known saying ‘a week’s wages for a month’s rent’ accurately described the housing expenses of many tenants.” They cite a number of studies and sources, many of which indicate higher rent-to-income ratios for lower-income households than for higher-income households. Hulchanski (1995) reviews many of the same sources and others and expresses somewhat greater skepticism regarding the accuracy and consistency of this relationship. Crawford (1992), discussing the life of mill workers in the 1890s, writes, “New England textile workers usually paid a week’s wages per month for housing, in comparison to the one- or two-days’ wages paid by Southerners.” Riis (1890), however, said that in New York “the rent ... is never less than one week’s wages out of four.” Whitaker and his coauthors (1918) state that “it is generally accepted that not more than 20 percent of a family’s income should go for rent.”

Several analyses have questioned the use of the ratio of gross rent to income, the use of 30 percent as a benchmark for that ratio, and the measures used for income and expense. Some argue that any given ratio of rent to income represents a more severe burden for some households than for others. They suggest a measure based on the income left after paying for housing, taking into account the costs that residual income must cover (Stone 2006). Others have questioned the exclusion of some cash and noncash receipts in the measure of income (Koebel and Renneckar 2003; Stegman, Davis, and Quercia 2003). Still others have suggested that costs such as transportation be considered along with space rent and utilities in the definition of housing expense (Haas et al. 2006; Lipman 2006).

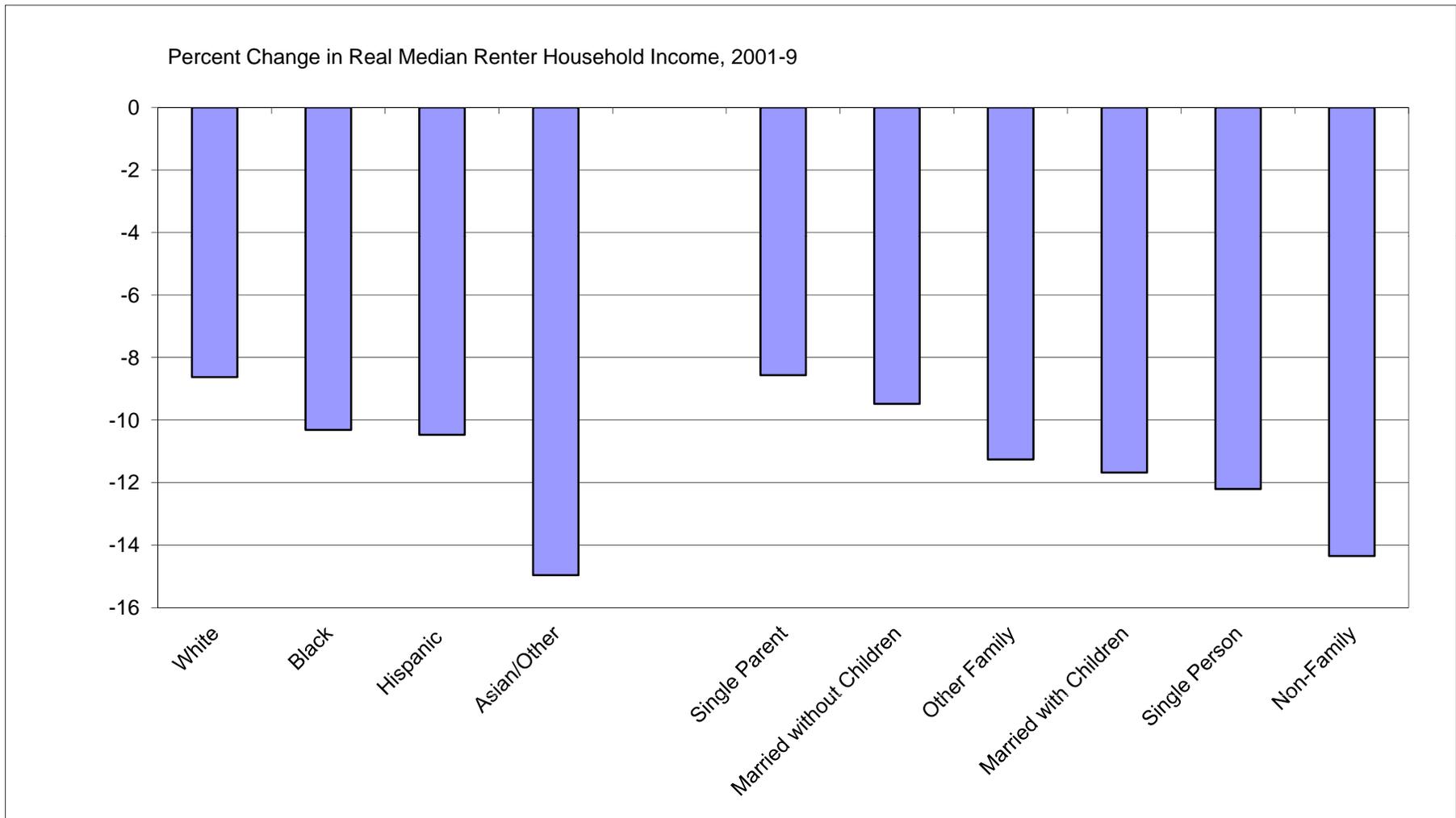
In its 1994 inaugural “Worst Case Needs” report to Congress, HUD focused on renters spending more than half of their incomes on housing, as well as those living in severely inadequate units. HUD referred to renters paying more than 30 percent of income as having housing cost burdens, and those paying more than 50 percent as having severe housing cost burdens. For the most part, the analysis of affordability in this report relies on the 30 percent rent-to-income standard and traditional measures of money income and gross rent, in order to allow comparisons with many previous reports.

Figure 2-1. Renter Incomes Have Lagged the Rise in Rents and Fuel and Utility Costs



Notes: Data are indexed to 100 in 1980 and adjusted for inflation using the CPI-U for All Items. Renters not paying cash rent are excluded.
 Sources: US Bureau of Labor Statistics, Rent of Primary Residence and Fuel and Utilities Consumer Price Indices; JCHS tabulations of US Census Bureau, Current Population Survey.

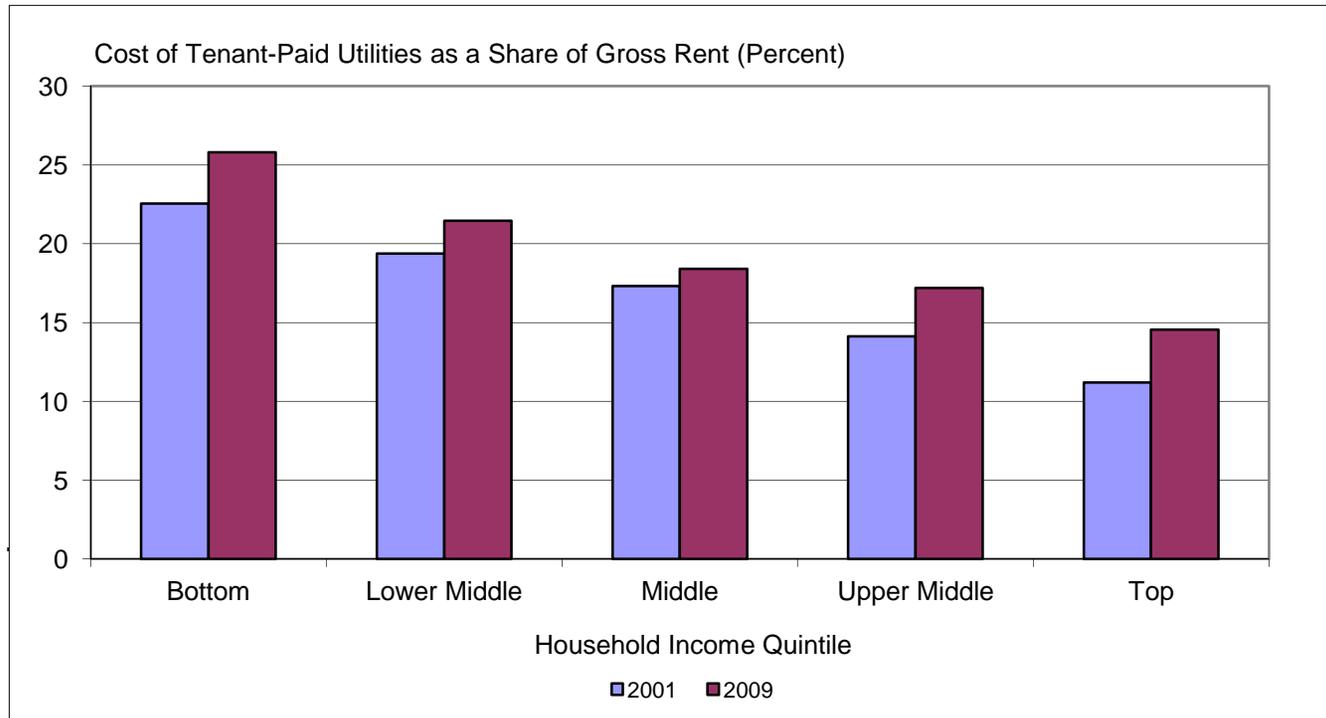
Figure 2-2. Real Income Drops Since the 2001 Peak Have Been Widespread



Notes: Renters not paying cash rent are excluded. Children are the householder's own children under the age of 18. White, black and Asian/other householders are non-Hispanic. Hispanics may be of any race. Asian/other includes multiracial householders in 2009.

Source: JCHS tabulations of US Census Bureau, 2002 and 2010 Current Population Surveys.

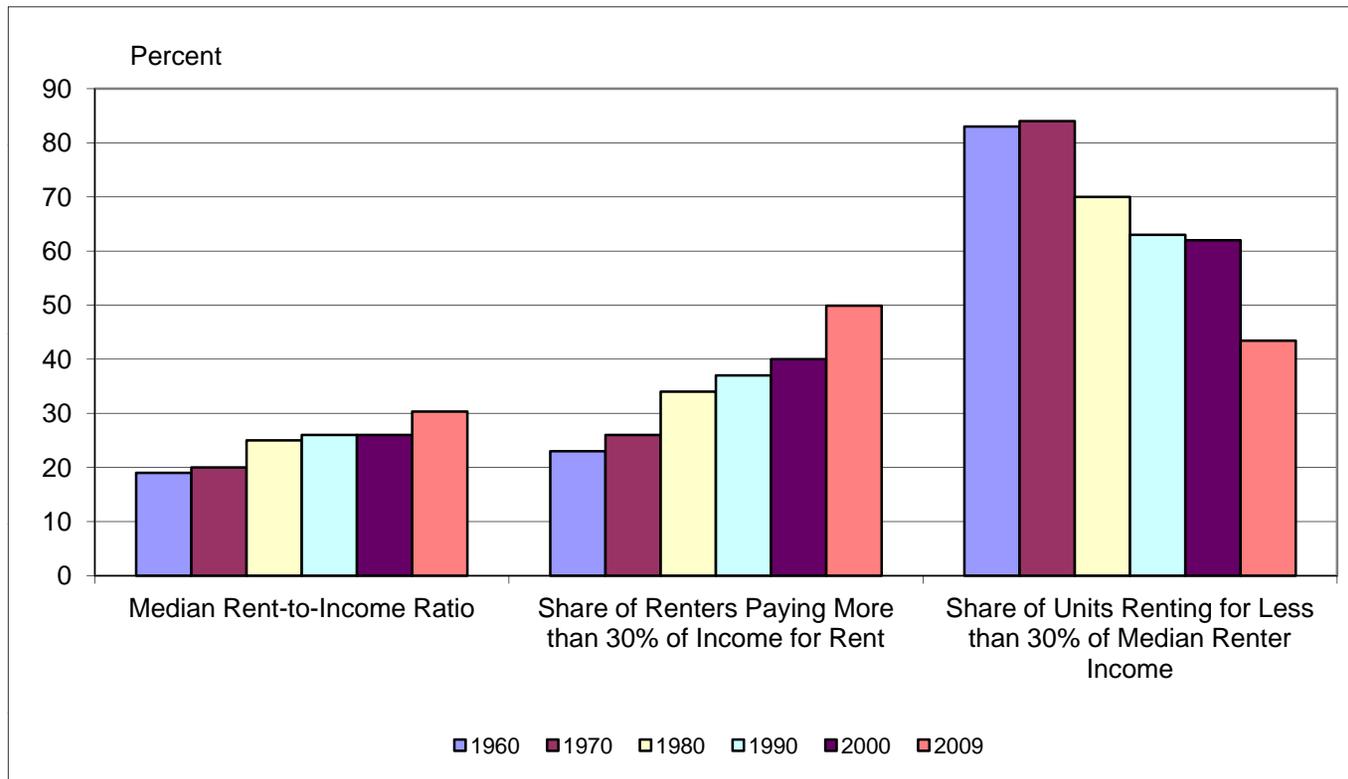
Figure 2-3. Especially for Low Income Renters, Utilities Are a Growing Share of Housing Costs



Notes: Only households which pay separately for rent and utilities are included. Gross rent includes both rent and utilities paid by the tenant. Utilities are electricity, gas, water, oil, and fuel. Household income quintiles are based on equal fifths of all households, both owners and renters, sorted by pre-tax household income.

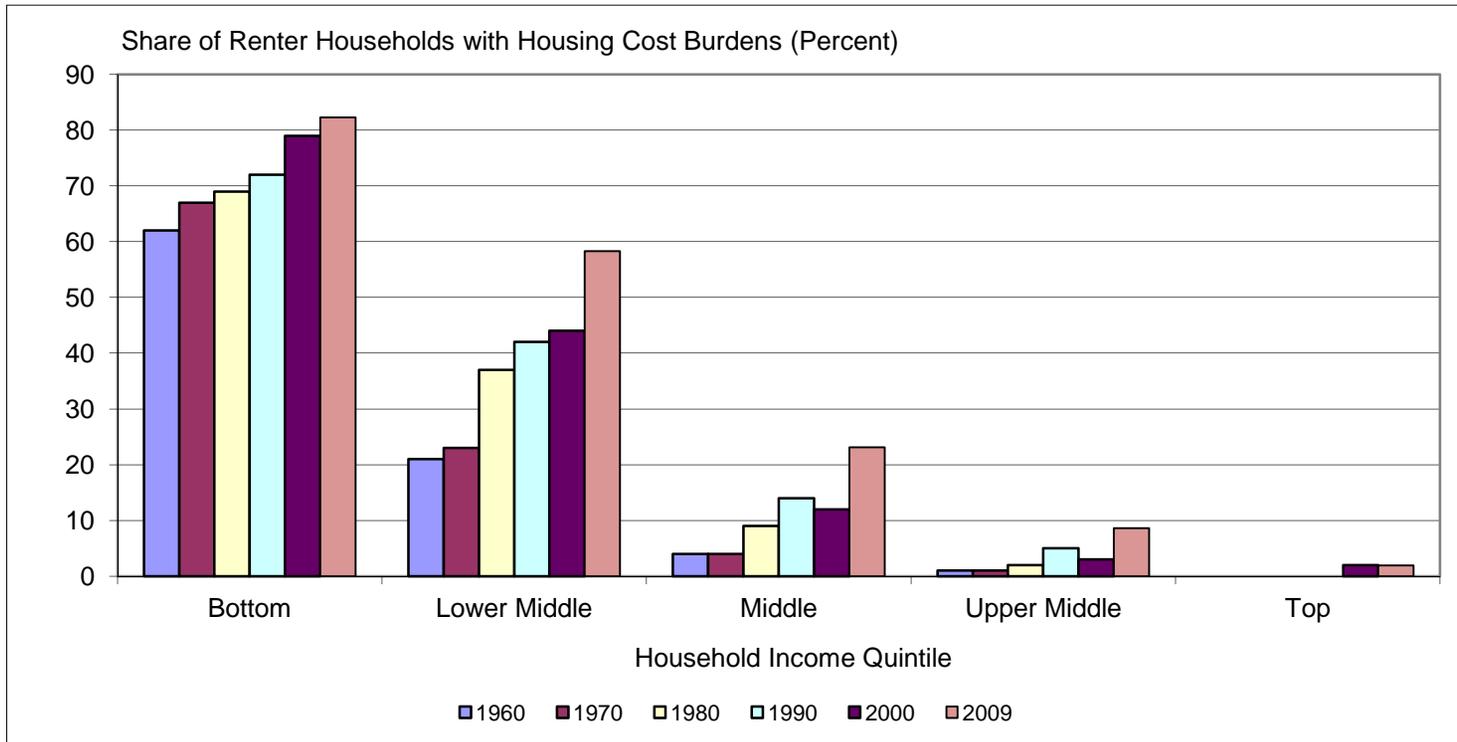
Source: JCHS tabulations of US Department of Housing and Urban Development, 2001 and 2009 American Housing Surveys, using JCHS-adjusted weights.

Figure 2-4. By All Measures Rental Affordability Has Worsened Dramatically Over the Last Half Century



Notes: Rental costs include both rent and tenant-paid utilities. Renters not paying cash rent are excluded.
 Sources: JCHS tabulations of US Census Bureau, 2009 American Community Survey; John M. Quigley and Steven Raphael, 2004, "Is Housing Unaffordable? Why Isn't It More Affordable?," *Journal of Economic Perspectives* 18(1).

Figure 2-5. The Situation for the Lowest Income Renters Is Increasingly Dire and Affordability Problems Are Creeping Up the Income Scale



Notes: Renters with housing cost burdens pay more than 30% of household income for rent and utilities. Household income quintiles are equal fifths of all households, both owners and renters, sorted by pre-tax household income. Renters not paying cash rent are excluded.

Sources: JCHS tabulations of US Census Bureau, 2009 American Community Survey; John M. Quigley and Steven Raphael, 2004, "Is Housing Unaffordable? Why Isn't It More Affordable?," *Journal of Economic Perspectives* 18(1).

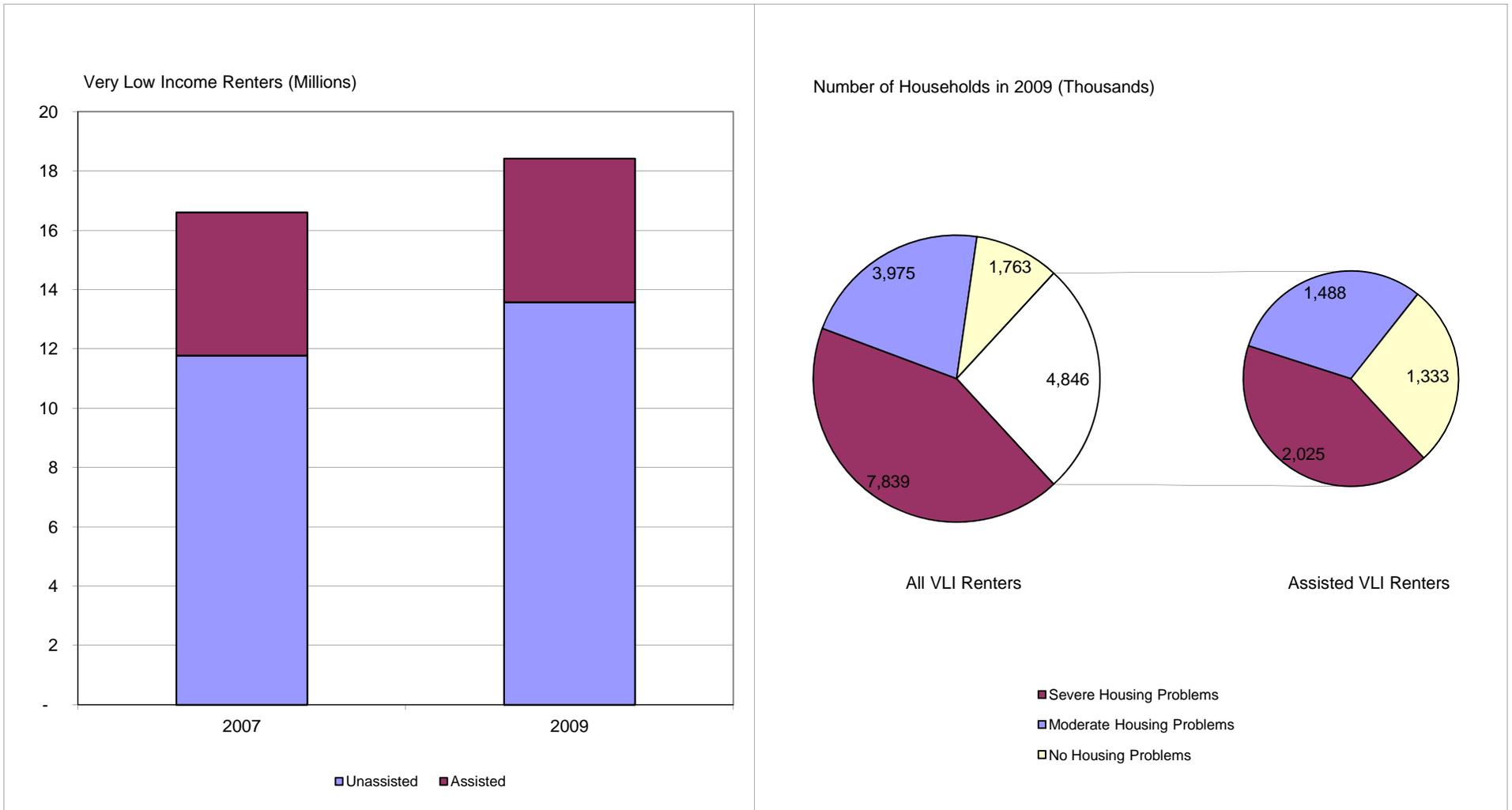
Figure 2-6. Affordability Worsened as Rents Rose and Real Incomes Fell in the 1970s and 2000s

Change in the Share of Units Affordable to the Median Renter (Percentage points)			
	Overall Change	Due to Rents	Due to Income
1960-1970	1	-8	9
1970-1980	-14	-8	-6
1980-1990	-7	-9	2
1990-2000	-1	-4	3
2000-2009	-17	-8	-9

Notes: Decomposition of the change in affordability from 1960 to 2000 is from Quigley and Raphael (2004). The change in 2000-9 is estimated using the same methodology.

Sources: JCHS tabulations of US Census Bureau, 2008 American Community Survey; John M. Quigley and Steven Raphael, 2004, "Is Housing Unaffordable? Why Isn't It More Affordable?," *Journal of Economic Perspectives* 18(1).

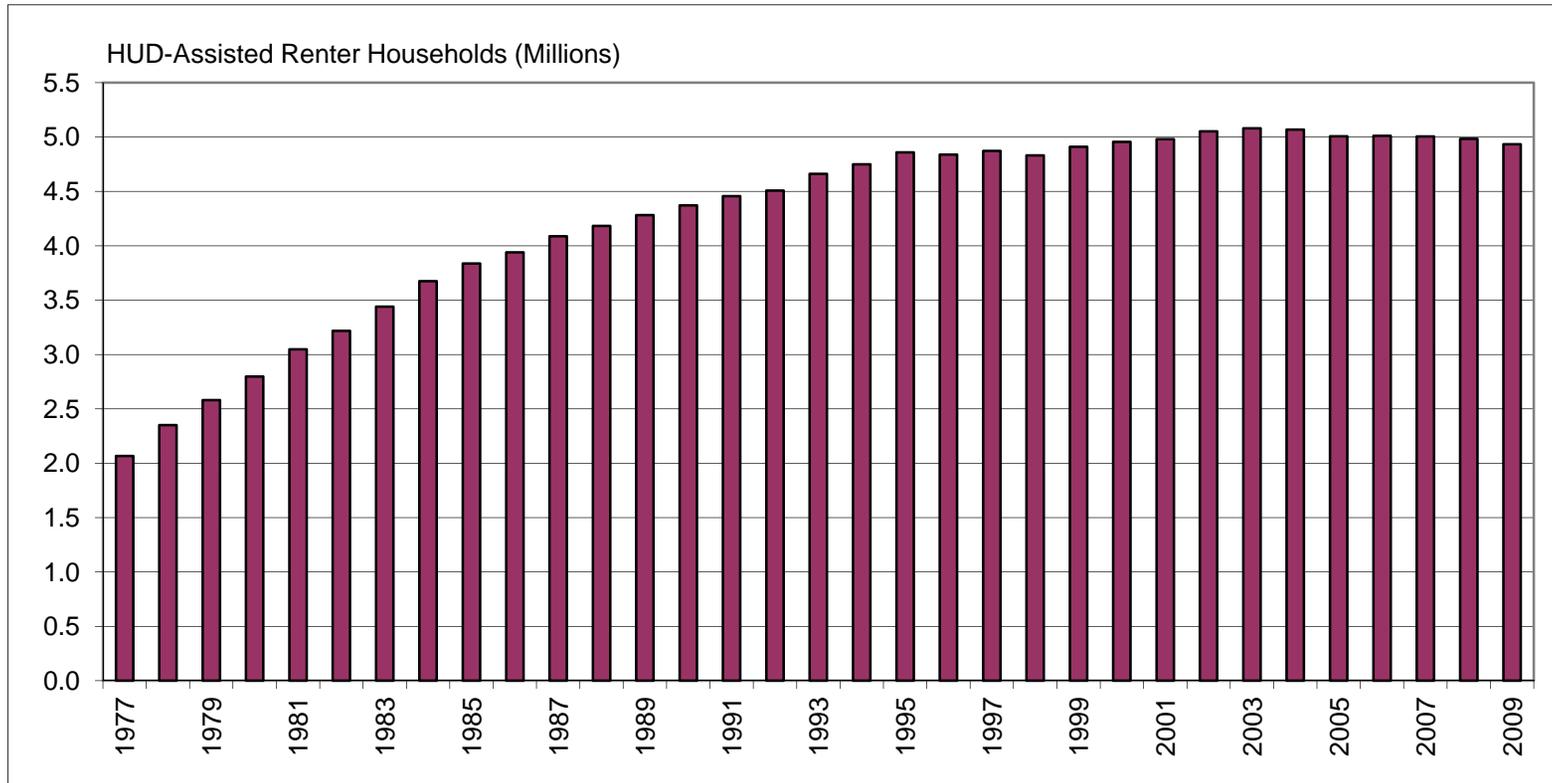
Figure 2-7. The Number of Renters Needing Assistance Increased Sharply During the Financial Crisis Yet Only a Fraction of Those Eligible for Help Received It, and Even With Assistance Many Still Faced Severe Housing Problems



Notes: Very low income (VLI) renters have pre-tax household incomes that are less than 50 percent of HUD-defined area median family income, adjusted for family size. Renters with severe housing problems pay half or more of household income for rent and utilities or live in severely inadequate units. Renters with moderate housing problems pay between 30 and 50 percent of income for rent and utilities, live in moderately inadequate units, or are overcrowded, having more than one person per room. Standards for moderate and severe inadequacy are defined by HUD. Renters with zero or negative income are assumed to be severely burdened, while no cash renters are assumed to be unburdened. Renters with zero or negative income paying more than the fair market rent and living in adequate units are imputed to have above median income.

Source: JCHS tabulations of the 2007 and 2009 American Housing Surveys, using JCHS-adjusted weights.

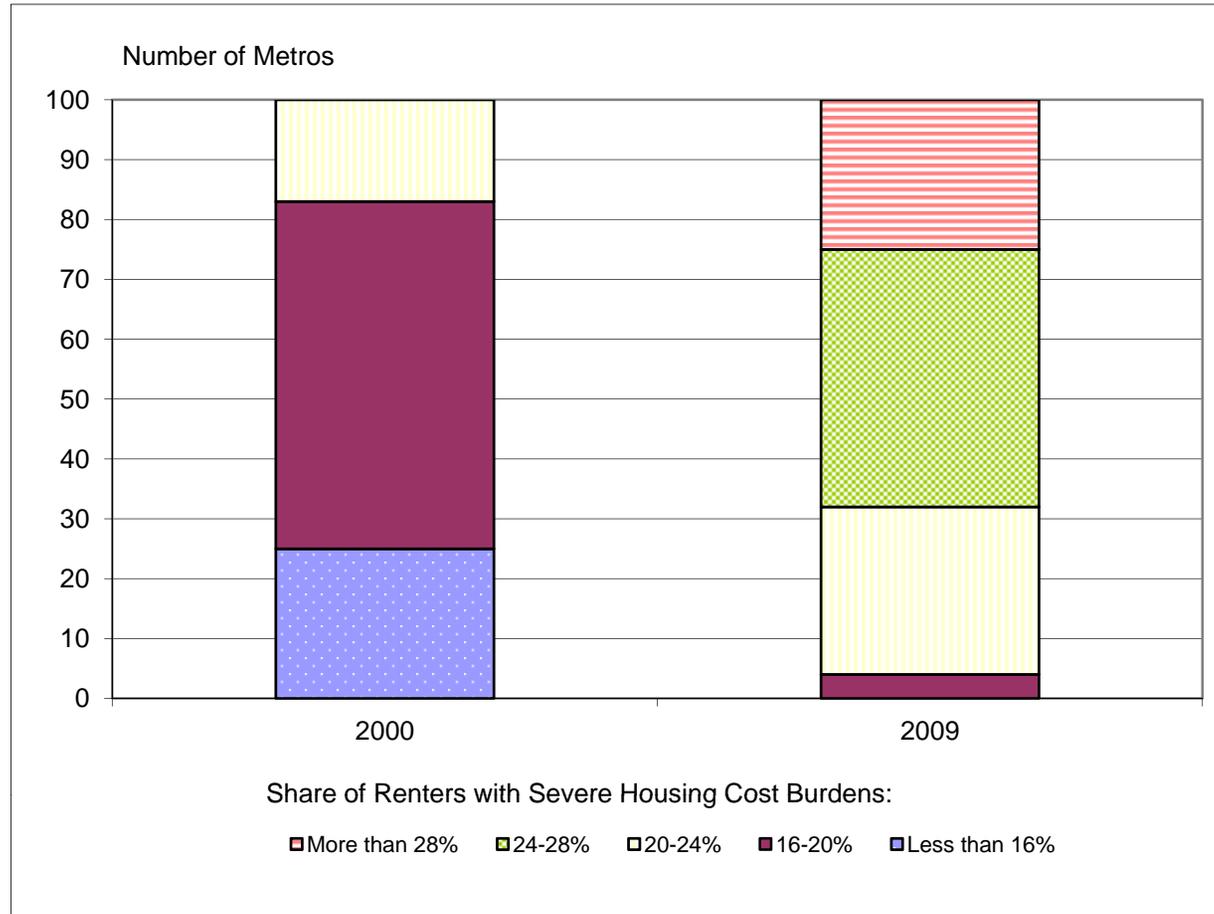
Figure 2-8. The Number of HUD-Assisted Renters Has Not Grown Since the 1990s



Notes: Households with more than one form of rental subsidy are counted more than once. Estimates after 1999 are from HUD performance and accountability reports.

Sources: US House of Representatives, Committee on Ways and Means, 2000 Green Book; US Department of Housing and Urban Development, Performance and Accountability Reports 2003-9.

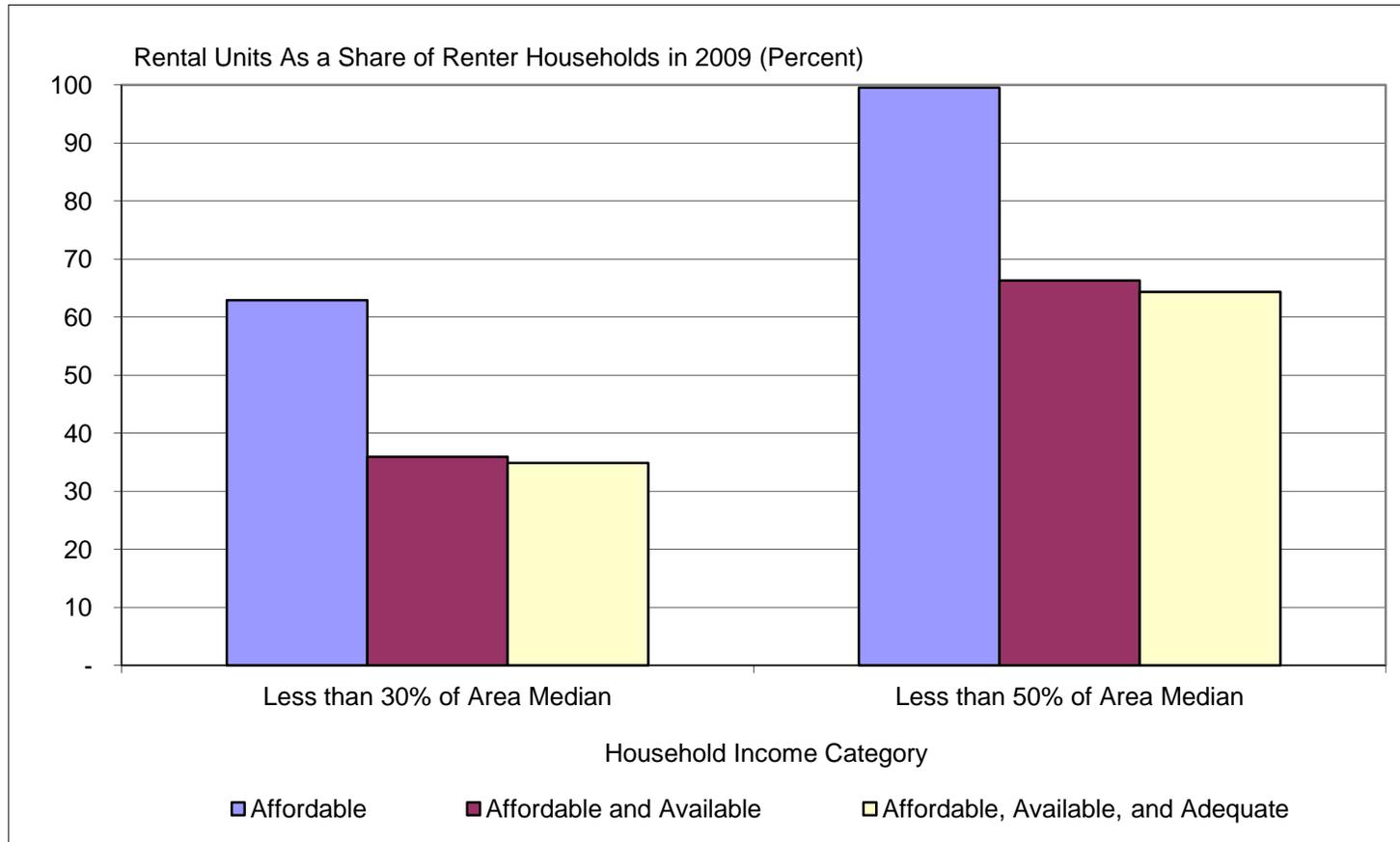
Figure 2-9. Renter Cost Burdens Vary by Metro, but All Saw Significant Increases in Severe Burdens This Decade



Notes: Renters with severe housing cost burdens pay more than 50% of household income for rent and utilities. Metros are the top 100 metros by population in 2009.

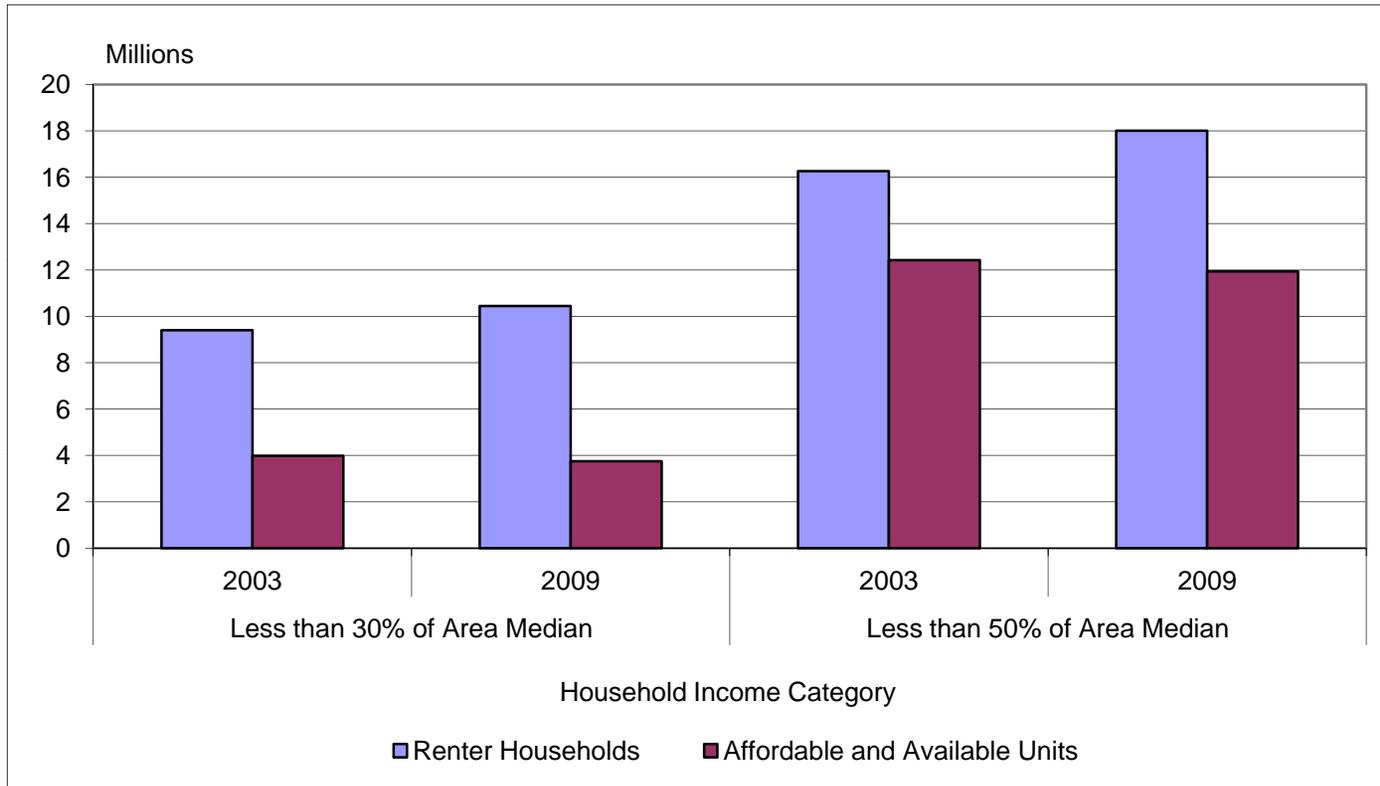
Source: JCHS tabulations of US Census Bureau, 2000 and 2009 American Community Surveys.

Figure 2-10. Very Few Rental Units Are Available and Affordable to the Lowest Income Renters



Notes: Affordable units have gross rents that are no more than 30% of the maximum income for the income category, adjusted for number of bedrooms. Available units are vacant or occupied by renters with incomes that are no more than the maximum for the category. Adequate units exclude occupied units that are severely inadequate according to HUD standards, and vacant units that lack full plumbing. Gross rent for vacant units is estimated at 1.15 times the asking rent. Local area median income is determined by HUD and is adjusted for family size. Units rented but not yet occupied are excluded. Source: JCHS tabulations of US Department of Housing and Urban Development, 2009 American Housing Survey, using JCHS-adjusted weights.

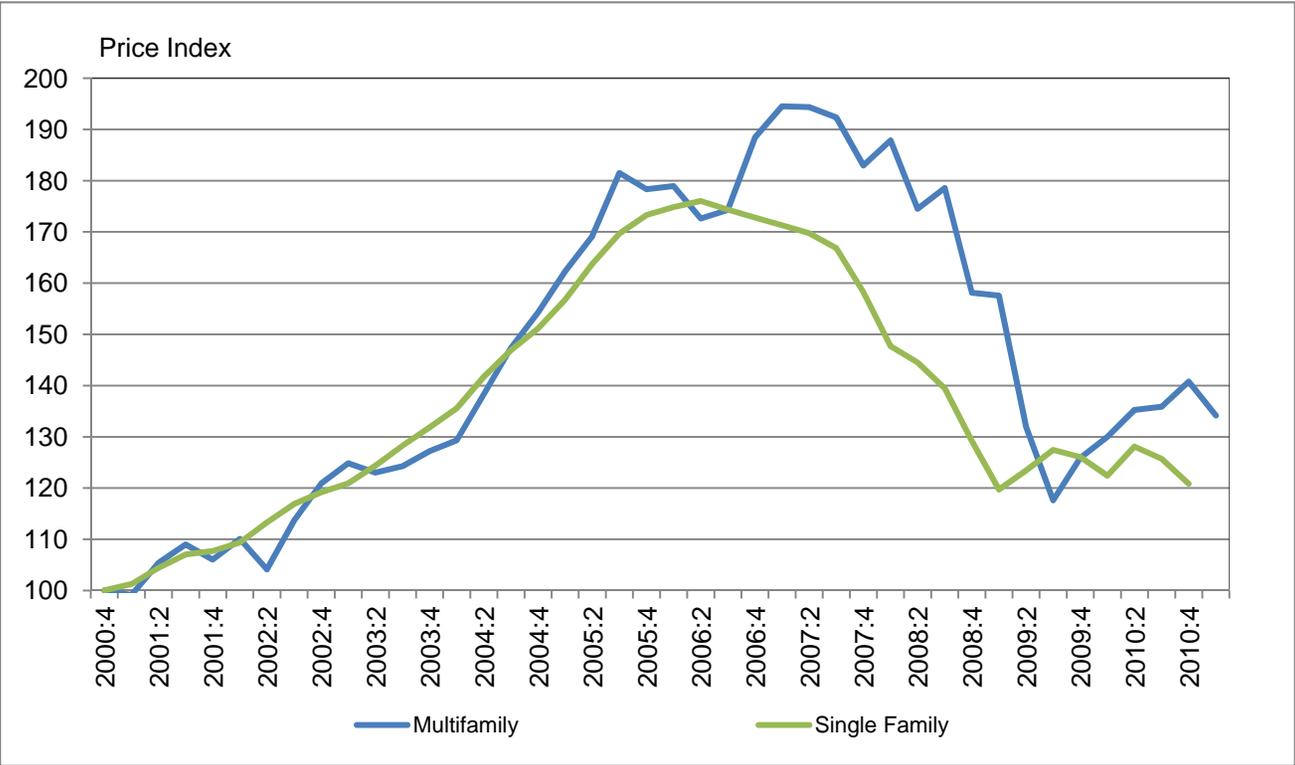
Figure 2-11. As the Number of Low Income Renters Grew, the Number of Affordable and Available Units Shrank



Notes: Affordable units have gross rents that are no more than 30% of the maximum income for the income category, adjusted for number of bedrooms. Available units are vacant or occupied by renters with incomes that are no more than the maximum for the category. Adequate units exclude occupied units that are severely inadequate according to HUD standards, and vacant units that lack full plumbing. Gross rent for vacant units is estimated at 1.15 times the asking rent. Local area median income is determined by HUD and is adjusted for family size. Units rented but not yet occupied are excluded.

Source: JCHS tabulations of US Department of Housing and Urban Development, 2009 American Housing Survey, using JCHS-adjusted weights.

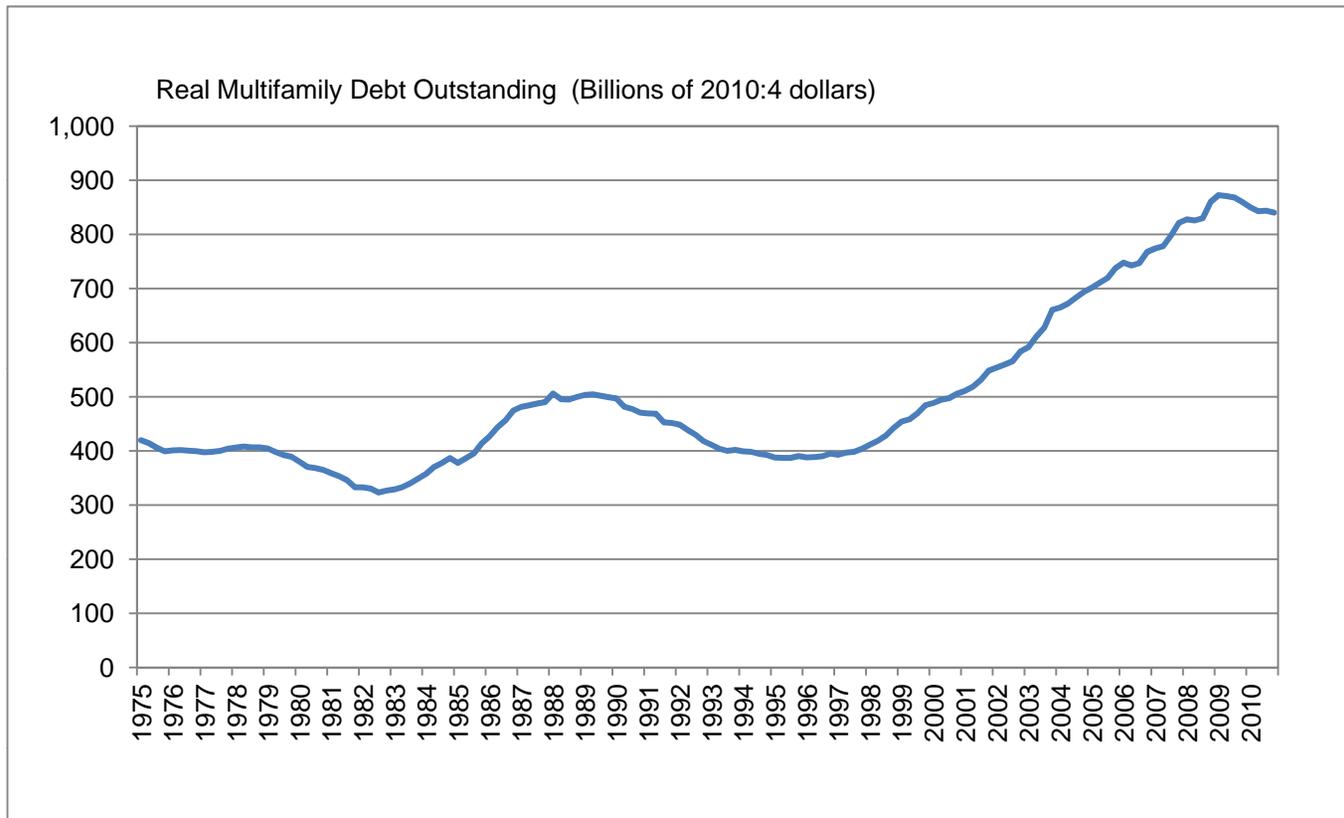
Figure 3-1. Prices Started Falling Later for Multifamily Properties Than Single Family Homes, But the Magnitude of the Boom and Bust Was Similar



Notes: Data are normalized to 100 in 2000:4. Single family index is based on sales of 1-4 unit properties. Multifamily index is based on sales of multifamily apartment properties worth at least \$2.5 million.

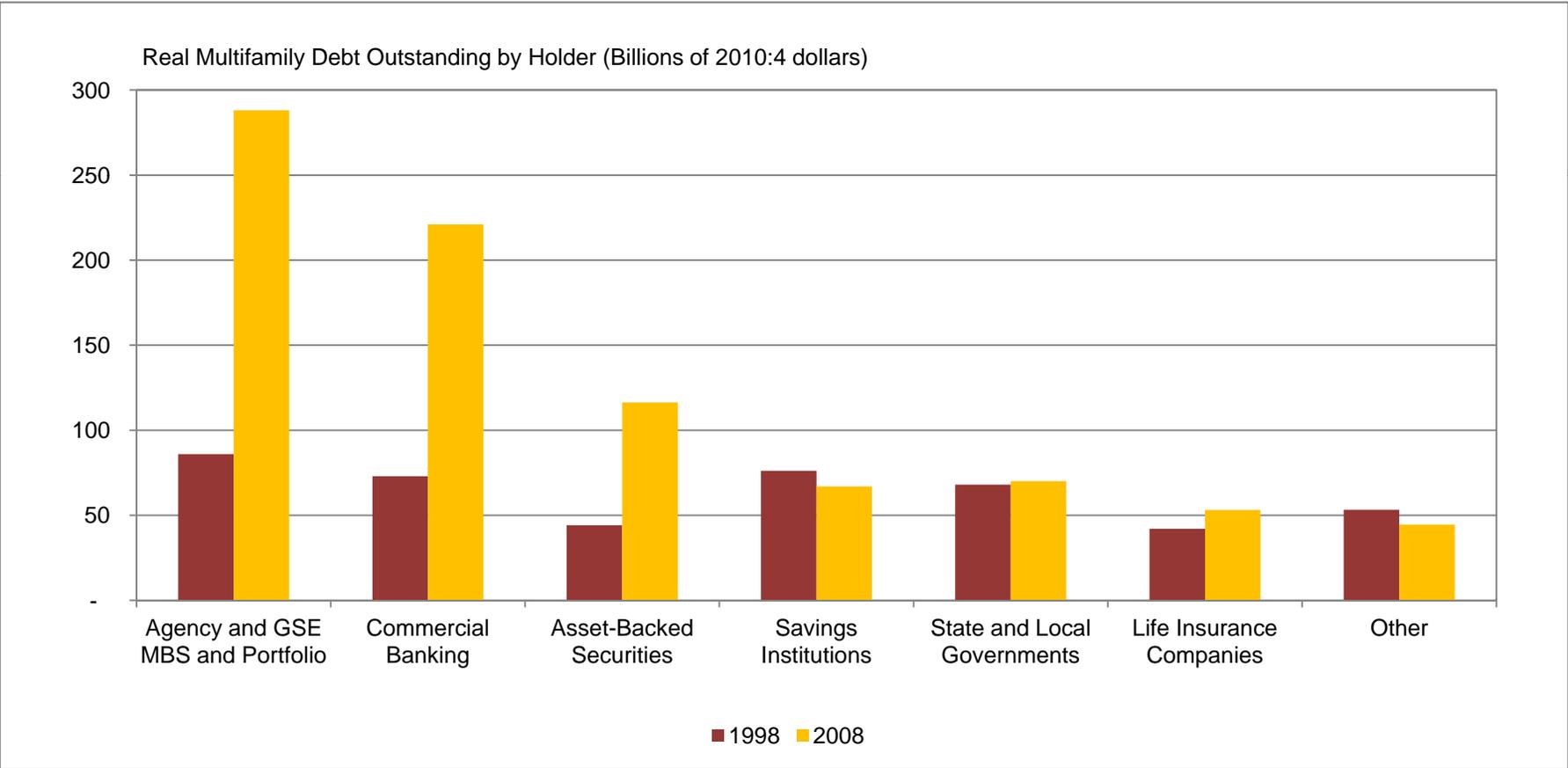
Sources: Moody's/REAL National Commercial Property Price Index for Apartments; S&P/Case-Shiller National Home Price Index.

Figure 3-2. Multifamily Lending Grew Substantially Beginning in 1998



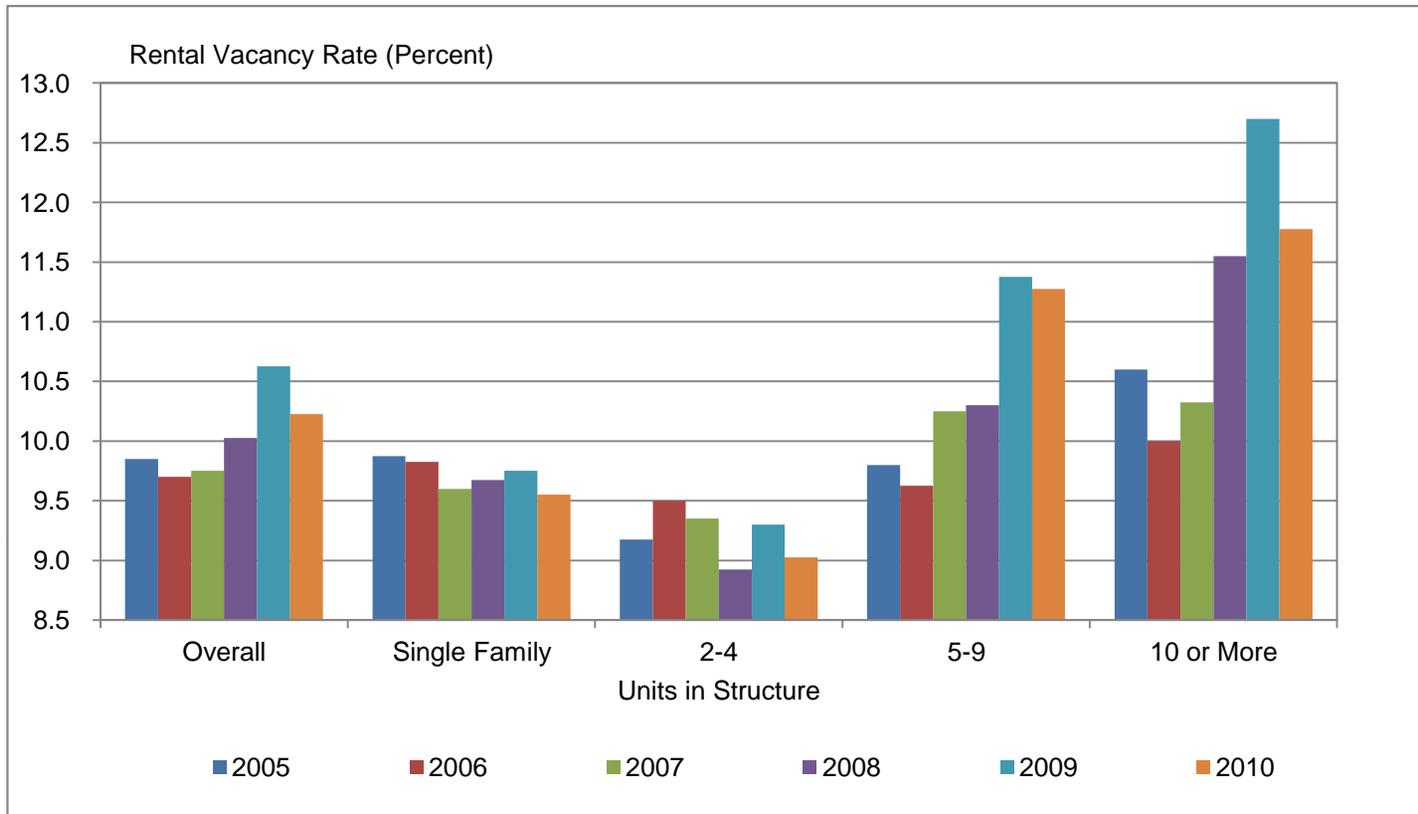
Note: Values are adjusted for inflation using quarterly averages of the monthly CPI-U for All Items.
Source: Federal Reserve Board, Flow of Funds.

Figure 3-3. The GSEs, Commercial Banks, and Asset-Backed Securities Accounted for Most of the Boom in Multifamily Lending



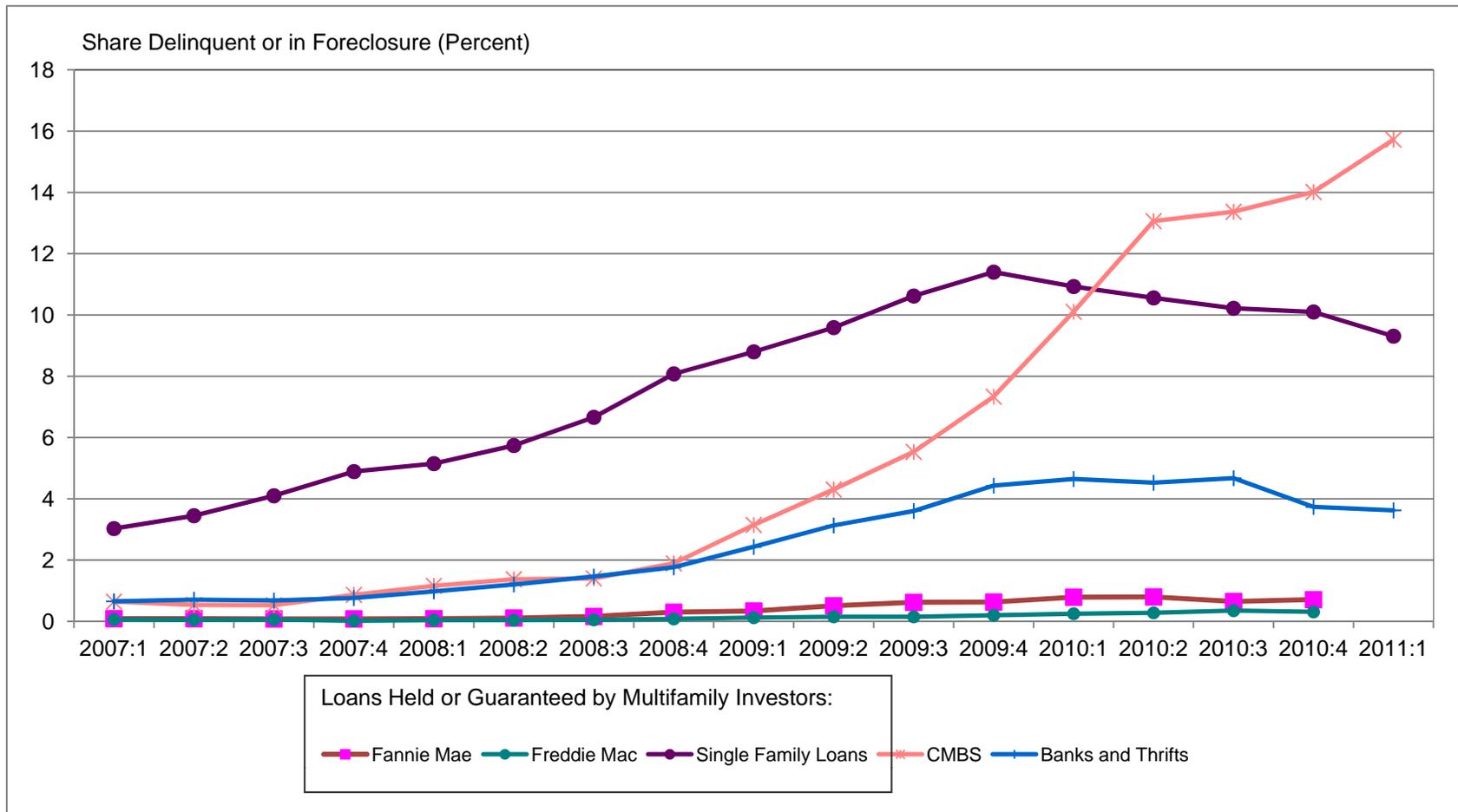
Note: Values are adjusted for inflation using the fourth-quarter average of the monthly CPI-U for All Items.
 Source: Federal Reserve Board, Flow of Funds.

Figure 3-4. Vacancy Rates Rose Sharply in 2009, Particularly Among Larger Buildings, and then Retreated in 2010



Source: US Census Bureau, Housing Vacancy Survey.

Figure 3-5. Multifamily Delinquencies Are Worst for Loans in Private Commercial Mortgage Backed Securities

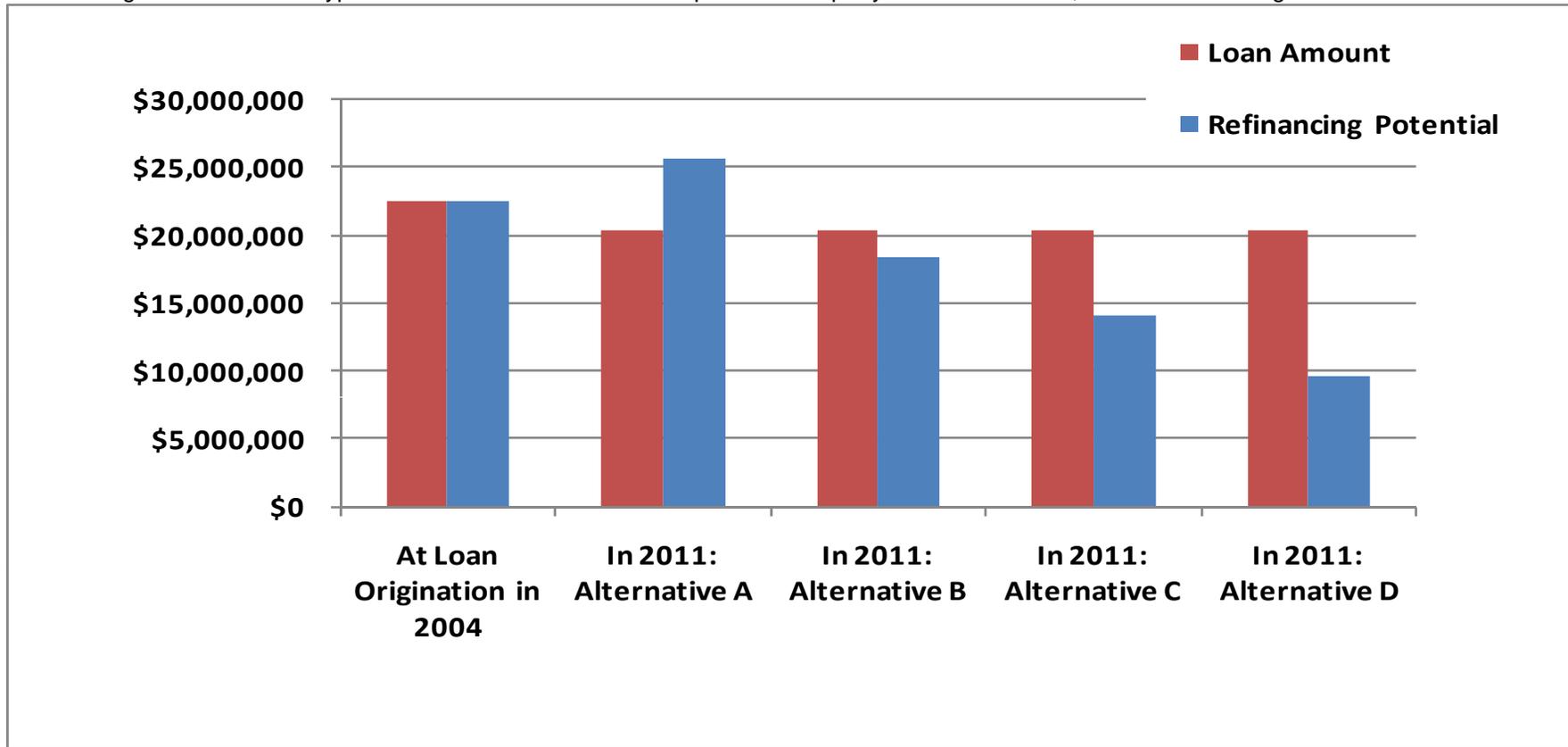


Notes: Rates for different types of financial institutions show trends for that type, but are not comparable between types. Single family loans include loans for 1- to 4-unit properties. Commercial Mortgage Backed Security (CMBS) delinquencies include properties foreclosed but not yet sold. Delinquency rates are the share of loans by volume that are 60 or more days delinquent, except for banks and thrifts, which are the share 90 or more days delinquent.

Sources: Mortgage Bankers Association, National Delinquency Survey and Commercial/Multifamily Mortgage Delinquency Rates; Moody's Multifamily CMBS Delinquency Tracker; Federal Deposit Insurance Corporation, Quarterly Loan Portfolio Performance Indicators.

Figure 3-6. Short Term Loans Originated During the Boom Years May Have Difficulty Meeting Underwriting Criteria for Refinancing

Refinancing Scenarios for a Hypothetical 200-Unit Market-Rate Apartment Property Financed in 2004, with Loan Maturing in 2011



Notes: DSCR at loan origination in 2004 = 1.15. Alternative scenarios for refinancing also assume that a DSCR of 1.15.

Scenario A: This illustrates the scenario projected at the time of loan origination calling for strong growth in NOI resulting in DSCR of 1.37, enabling the owner to refinance at a higher loan amount. Scenario B: 2011 rents are 1% per year (compounded) above 2004 pro forma levels; expenses are 5% per year (compounded) above 2004 pro forma levels; and there is a 9% rent loss in 2011 due to high vacancies. DSCR on the existing loan in 2011 would be 0.98. Scenario C: 2011 rents are negative 1% per year (compounded) below pro forma levels; 2011 expenses are 5% per year (compounded) above pro forma levels; and there is 9% rent loss due to high vacancies. DSCR would be 0.76. Scenario D: 2011 rents are negative 2% per year (compounded) below pro forma levels; 2011 expenses are 7% per year (compounded) above pro forma levels; and there is 11% rent loss in 2011 due to high vacancies. DSCR would be 0.52.