Rural Housing Prices Grew Rapidly in the 1990s

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Rural housing prices rose faster than housing prices in metro areas during the 1990s. Between 1989 and 1999, the median price of owner-occupied homes increased by 59 percent in nonmetro areas compared with 39 percent in metro areas. Constant-quality measures find that a gap holds even after controlling for differences in housing quality. Net migration and household income growth drove the rapid growth of nonmetro housing prices. Still, nonmetro prices are significantly lower than prices in metro areas for comparable housing.

After the recession of the early 1990s, the U.S. economy experienced the longest economic expansion on record (NBER). During the10-year expansion from March 1991 to March 2001, nonmetro residents shared in the rising economic fortunes of the Nation, as is well documented. Employment growth, falling unemployment, and rising incomes were hallmarks of the extended period of growth (Kusmin; Dagata).

The improvement in general economic conditions during the 1990s stimulated housing markets in urban and rural areas. Rising income levels together with public policies helped make homeownership affordable for more households, and the rate of homeownership increased in both urban and rural areas (Mikesell). The quality of homes increased as the prevalence of inadequate housing fell and the rural-urban gap in housing quality shrank (Whitener).

The increased demand for owner-occupied housing and improved housing quality should lead to higher home prices. Little attention, however, has focused on the course of housing prices in rural areas during the 1990s and how this compared with urban areas. Yet, rural housing prices are an important indicator for a variety of purposes.

This article examines housing prices in rural areas—how they compare to urban housing prices and how they changed during the 1990s. Using data for 1989 and 1999 from the American Housing Survey and the Office of Federal Housing Enterprise Oversight, we compare housing prices between urban and rural areas, demonstrate how various measures of housing prices corroborate the change in rural housing prices during the 1990s, and explore the impact of migration and income growth on rural housing prices.

Rural Housing Prices Are an Important Indicator

Rural housing prices are an important indicator for market participants and observers of rural housing markets. Housing prices are important to rural homeowners because their homes are a major component of household wealth and changes in housing values determine the return to this major investment. Potential rural homebuyers also are concerned with home prices because they affect the feasibility of home ownership and the desirability of a rural location over an urban one. For banks and other mortgage lenders, changes in house prices provide signals about the possibility of foreclosure and the riskiness of lender portfolios. Rural home prices can also indicate to homebuilders the quantity and characteristics of homes that builders construct for the market. Local governments in rural areas also are attuned to housing prices, especially since property tax payments are based on the assessed value of homes. Housing prices are a major component of the local cost of living and thus affect local efforts to attract and retain firms and workers. Finally, economists and other researchers need measures of rural

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housing prices in order to study the operation of rural housing markets and the impact of government policies on the performance of those markets.

Given the many reasons for tracking changes in rural housing prices, it is important to have accurate measures of price change appropriate for these uses (Pollakowski). However, data for measuring rural housing prices are not as readily available as for housing in urban locations. Furthermore, measuring housing prices accurately is not a simple matter. We cannot talk about the price of housing as we do about the price of a bushel of corn or wheat. Individual housing units vary a great deal with respect to structural features and neighborhood. Simply put, there is no standard measure of a unit of housing.

Attempts to measure housing prices accurately must address this fundamental heterogeneity of housing units. Three common measures of housing price change are median prices, hedonic price indexes, and repeat-sales price indexes. Each measure has it advantages and disadvantages with respect to coverage, data availability, and ease of preparation and use (Pollakowski). What do these alternate measures tell us about rural housing prices during the 1990s?

Median Housing Values Rose Faster in Rural Areas

Median prices are the most commonly cited home price measure. The median is the price of the house in the middle of the price distribution and is estimated using a census or survey sample. The 1999 American Housing Survey (AHS) allows us to compare median housing prices by metro status (see box, "American Housing Survey"). Median housing values in nonmetro areas ($79,000 in 1999) are substantially lower than in metro areas ($121,000) (table 1). Within both metro and nonmetro areas, locations may be classified as either urban or rural based on population density, providing a richer and more complicated picture of housing markets. Within metro areas, for example, the median home was valued at about $101,000 in central cities, $136,000 in the urban suburbs, and $115,000 in the rural suburbs (table 1). Outside metro areas, median home values were nearly identical at about $79,000 in urban and rural locations.

The number of homes in rural areas represented by these median prices is large and growing rapidly. According to the 1999 AHS, 25 million owner-occupied housing units, comprising 36 percent of the Nation's total, were in rural locations (table 2). The designations rural and nonmetro are often used interchangeably. Because metro areas consist of entire counties, however, they often contain rural sections.

Table 1
Median value of owner-occupied units, 1989 and 1999
Median home values grew fastest in rural and nonmetro areas during the 1990s

Metro status	1989	1999	Growth
	Dollars		*Percent*
Central city	74,667	101,396	35.8
Urban suburbs	101,086	135,973	34.5
Rural suburbs	78,633	114,924	46.2
Total metro	87,123	120,933	38.8
Nonmetro urban	49,515	79,356	60.3
Nonmetro rural	49,772	78,581	57.9
Total nonmetro	49,670	78,841	58.7
U.S. total	75,359	108,300	43.7

Source: Calculated by ERS from the 1989 and 1999 American Housing Survey.

Table 2
Owner-occupied units by metro status, 1989 and 1999
The number of owner-occupied housing units grew rapidly in rural suburbs and nonmetro rural areas

Metro status	1989	1999	Growth
	Millions		*Percent*
Central city	14.8	15.5	5.1
Urban suburbs	20.8	23.8	14.1
Rural suburbs	9.5	12.3	29.2
Total metro	45.1	51.5	14.3
Nonmetro urban	4.8	5.0	3.0
Nonmetro rural	10.0	12.3	22.7
Total nonmetro	14.8	17.3	16.3
U.S. total	59.9	68.8	14.8
Urban	40.4	44.2	9.5
Rural	19.5	24.6	25.9

Source: 1989 and 1999 American Housing Survey.

Rural homes were evenly divided between rural suburbs inside and remote rural locations outside of metro areas. Although nearly three-quarters of nonmetro homes were in rural locations (12.3 million), using nonmetro units to represent rural housing units would lead to a substantial undercount of all rural owner-occupied housing. Similarly, using the change in nonmetro housing units would lead to a significant understatement of the growth in rural housing units. During the 1990s, the number of owner-occupied housing units in rural locations grew rapidly, both inside and outside of metro areas. In the rural suburbs (rural locations within metro areas), the number of homes increased by 29 percent; in nonmetro rural locations, the number grew by 23 percent. In contrast, owner-occupied units increased by only 5 percent in central cities, 14 percent in the urban suburbs, and 3 percent in nonmetro urban locations (table 2).

As the number of owner-occupied housing units in rural areas swelled during the 1990s, so did their median value. While metro values as a whole increased by 39 percent, the median home value in the rural suburbs of metro areas increased by 46 percent (table 1). In nonmetro areas, the value of the median home increased by 59 percent—60 percent in urban locations and 58 percent in rural locations. In contrast, median home prices in metro areas rose by only 36 percent in central cities and by 35 percent in the urban suburbs.

Constant-Quality Housing Prices Also Rose Faster in Nonmetro Areas

Because the housing stock is heterogeneous, changes in median values may reflect differences in housing characteristics as well as in price. Thus, researchers have developed constant-quality indexes that measure changes in the price of a hypothetical standard housing unit. Using data from the American Housing Survey, we calculate one such measure, a hedonic price index (see "Data, Definitions, and Methods" for more detail). The hedonic price index is a constant-quality index that allows us to compare the price of a hypothetical standard housing unit in different locations for a given year as well as for one location over time. For example, within a census region, we can see how the value of a standard housing unit differs by metro status. In the Midwest, the average 1999 estimated price of a standard housing unit was $88,500 in central cities (table 3). In the urban suburbs, the price of the same housing unit was $113,000 while in

Table 3
Price of a standard owner-occupied housing unit, 1999
The constant-quality price of housing is lower in rural and nonmetro areas

Metro status	Northeast	Midwest	South	West	U.S.
			Dollars		
Central city	126,679	88,479	88,394	167,026	114,545
Urban suburbs	138,415	112,615	101,072	168,582	128,389
Metro rural	115,016	94,922	88,082	146,121	102,365
Nonmetro urban	82,044	81,353	77,412	110,008	85,920
Nonmetro rural	89,001	82,252	77,862	113,629	84,742
Total	123,262	95,111	88,678	155,232	109,666

Source: Calculated by ERS using the 1999 American Housing Survey.

American Housing Survey

The AHS is conducted biennially by the Bureau of the Census for the U.S. Department of Housing and Urban Development. The survey is designed to provide detailed information on the structural, neighborhood, and financial characteristics of the Nation's housing units. Data are weighted to reflect the U.S. population. The analysis employs the responses of about 30,000 owner-occupants in both 1989 and 1999. The AHS employs two, overlapping geographic schemes: metro-nonmetro and urban-rural. A location is classified as metro if it is within the boundaries of a metropolitan statistical area (MSA) as defined by the Office of Management and Budget. An MSA is an area with at least 100,000 population that consists of a central city of at least 50,000, the county containing that city, and surrounding counties that are economically integrated with the central county. In New England, MSAs are defined in terms of cities and towns rather than counties. Locations outside the boundaries of an MSA are classified as nonmetro.

Definitions of MSAs include entire counties if those counties meet certain thresholds of economic integration with the central county. Yet within many such counties, there are large areas that are sparsely settled. On the other hand, in nonmetro counties there are often small urban centers of higher population density than the surrounding countryside. In order to deal with the varied character of locations within metro and nonmetro counties, the AHS also uses the designations urban and rural. Places are defined as urban if they are part of a densely settled urbanized area or if they are outside urbanized areas but have population exceeding 2,500. Places not defined as urban are rural.

The result of the crosscutting metro-nonmetro and urban-rural designations is that locations may be designated as metro urban (which includes central cities and urban suburbs), metro rural (rural suburbs), nonmetro urban, or nonmetro rural. The designation of metro and urban status in the AHS since 1985 is based on 1983 definitions, which allows for continuity in how locations are designated over time. A disadvantage of this practice is that as rural areas urbanize and nonmetro areas become classified as metro, the survey overstates the current number of rural and nonmetro housing units.

the rural suburbs the price was $95,000. Outside of metro areas, the standard housing unit was worth $81,000 in urban locations and $82,000 in rural locations. This basic pattern is repeated in the other census regions: the price of an identical housing unit rises as we move from the central city to the urban suburbs then declines as we move to the rural suburbs. Outside of metro areas, the constant-quality price of housing is much lower, but comparable in urban and rural locations.

Estimates of constant-quality housing prices also allow us to compare housing prices over time. In all four census regions, constant-quality housing prices grew fastest in the rural suburbs of metro areas and in nonmetro urban and rural locations. Nationwide, constant-quality housing prices increased by 30 percent in the rural suburbs, and by more than 41 percent across nonmetro urban and rural locations (table 4). In contrast, prices increased by 21 percent in central cities and by only 15 percent in the urban suburbs.

Price changes varied significantly by region. In the Northeast, constant-quality housing prices actually fell in central city, urban suburb, and nonmetro urban locations. In contrast, constant-quality housing prices grew strongly regardless of metro status in the Midwest, at rates ranging from 40 percent in the urban suburbs to 60 percent in nonmetro rural locations. Prices also rose rapidly in the rural suburbs and in the nonmetro urban and rural locations of the South and West.

Table 4

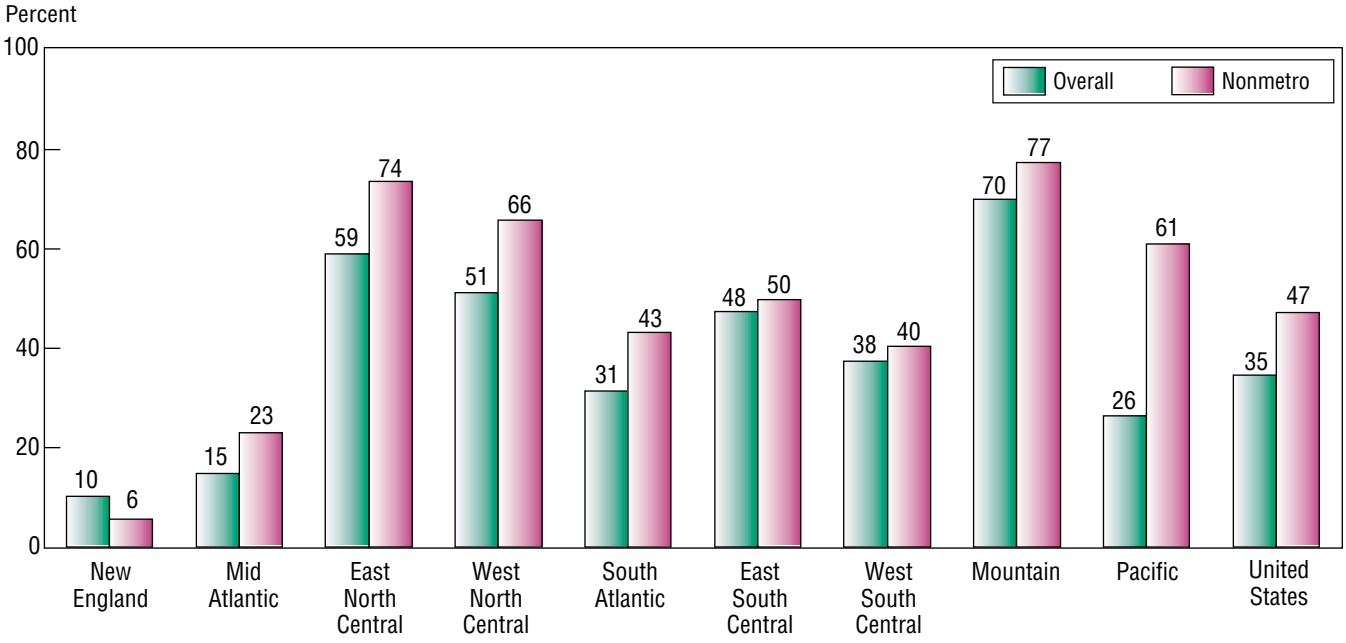
Change in the price of a standard owner-occupied housing unit, 1989-99

Constant-quality housing prices rose faster in rural and nonmetro areas

Metro status	Northeast	Midwest	South	West	U.S.
			Percent		
Central city	-5.4	43.3	22.2	26.0	21.3
Urban suburbs	-4.7	40.3	23.1	17.9	15.4
Rural suburbs	9.7	49.2	34.2	44.8	29.8
Total metro	-2.7	43.0	25.3	23.5	19.3
Nonmetro urban	-2.5	47.0	37.7	62.0	41.9
Nonmetro rural	10.6	60.0	42.7	52.6	43.1
Total nonmetro	7.6	55.2	41.2	56.7	42.6
Total	-2.0	45.8	29.2	26.4	22.9

Source: Calculated by ERS using the 1989 and 1999 American Housing Survey.

Figure 1
OFHEO repeat-sales price index growth: 1989-99
Nonmetro housing prices rose faster than overall housing prices in eight of the nine census divisions



Source: Calculated by ERS using data from the OFHEO House Price Index.

House Price Index from OFHEO Tracks Individual Houses

An alternative measure of constant-quality housing prices is the repeat-sales index. This technique controls for quality by measuring changes in the sale price of individual homes over time. The most well known example of a repeat-sales price index is the index computed by the Office of Federal Housing Enterprise Oversight (OFHEO). OFHEO is the Federal agency charged with overseeing the operations of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation, better known as Fannie Mae and Freddie Mac. These federally chartered government-sponsored enterprises buy mortgages from banks and other lenders and package them into securities, which are then sold to investors. This process increases the funds available to mortgage lenders, enhancing their ability to provide mortgages and lowering the cost to homebuyers. In overseeing Fannie Mae and Freddie Mac, OFHEO accumulates a large database of mortgage transactions. By matching properties in the database that appear in repeat transactions, OFHEO can track changes in the prices of individual properties over time (see "Data, Definitions, and Methods").

According to OFHEO's rural house price index, constant-quality prices in nonmetro areas nationwide increased by 47 percent between 1989 and 1999 (fig. 1). By census division, nonmetro price growth varied widely, with prices growing most slowly in New England (6 percent) and most rapidly in the Mountain States (77 percent) and the East North Central (74 percent). In every division but New England, the OFHEO nonmetro repeat-sales index grew faster than the overall index.

Comparing Measures of Rural Housing Price Change

Given the differences in data sources, coverage, and methods of calculation, how do the three methods of measuring housing price change compare in describing rural home price changes during the 1990s? Because data are not available below the regional level, our comparison of nonmetro housing price changes is by census region (fig. 2). Nationwide, nonmetro housing prices rose by 59 percent from 1989 to 1999 as measured by the AHS median, but by only 43 percent as measured by the AHS-based hedonic index. Furthermore,

Data, Definitions, and Methods

This study uses data from the American Housing Survey (AHS), the Repeat-Sales Price Index from the Office of Federal Housing Enterprise Oversight for 1989 and 1999, and the Consumer Price Index from the Bureau of Labor Statistics.

Census Divisions

The Census divisions consist of the following States:

New England (CT, ME, MA, NH, RI, VT)
Mid Atlantic (NJ, NY, PA)
East North Central (IL, IN, MI, OH, WI)
West North Central (MN, IA, MO, ND, SD, NE, KS)
South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)
East South Central (AL, KY, MS, TN)
West South Central (AR, LA, OK, TX)
Mountain (AZ, CO, ID, MT, NM, NV, UT, WY)
Pacific (AK, CA, HI, OR, WA)

Census Regions

The Census regions consist of the following Census divisions:

Northeast (New England, Mid Atlantic)
Midwest (East North Central, West North Central)
South (South Atlantic, East South Central, West South Central)
West (Mountain, Pacific)

Methods

Median Prices

The median is the price of the house in the middle of the price distribution, such that half of all houses have a lower price and half have a higher price. The American Housing Survey (AHS) is the only source that provides median prices of homes in rural areas on a nationwide basis between census years. The AHS actually provides owners' estimates of housing values rather than actual sales prices. Because only a fraction of existing homes at a given point in time are recent sales, a representation of the entire stock of owner-occupied units must rely on estimates of value instead of transaction prices. Although evidence suggests that owners tend to overestimate the value of their homes by a small amount, owner estimates of value appear to be sufficiently accurate for measuring changes in housing prices (Kiel and Zabel). However, median values from the AHS have several shortcomings. The AHS sample size makes it impossible to provide rural housing price data for geographic areas below the census region and the estimates are only available on a biennial basis. More important, median prices fail to adequately control for the heterogeneity of housing units. For example, the median-priced house in the central city might be a townhouse while the median-priced house in a non-metro rural area might be a single-family detached house. Comparing median prices in this situation mixes true differences in housing prices with differences in housing quality.

Hedonic Price Index

The hedonic price model is a commonly used method of deriving constant-quality price indexes for goods that are heterogeneous, such as housing. A housing unit can be thought of a bundle of various characteristics, each of which has an implicit price. The overall price or value of the housing unit is the weighted average of these implicit prices where the weights are the amount or presence of each characteristic that the housing unit possesses. Using microdata from the AHS we estimate these implicit prices by regressing the overall house value on a set of structural, neighborhood, and geographic characteristics. The structural characteristics include variables such as the structure type (attached, detached, or mobile home), the number of rooms, the type of heating equipment, and similar variables. Neighborhood variables include the presence of noise, litter, and crime. Geographic variables include the census region, climate zone, metro-nonmetro and urban-rural designations, and dummy variables for specific metro areas when identified in the survey. Separate equations are estimated for 1989 and 1999.

We then define a standard housing bundle that has the average value of each of the structural housing attributes in the sample. For each sample unit's location, the price of the standard housing bundle is calculated using the estimated characteristics' prices from the 1989 regression equation. Then the standard bundle is priced in the same location using the estimated prices from the 1999 equation. The difference between these calculated values provides a measure of the constant-quality change in the price of housing in that location between 1989 and 1999.

The hedonic price index constructed using the AHS has a number of advantages over the median house price series from the same survey. First, it controls for differences in housing quality. Second, because it models overall housing value as a function of individual unit characteristics, it uncovers the implicit values that homeowners place on these characteristics. Furthermore, the definition of the standard housing unit is flexible, which can illuminate different patterns of regional and historical price variation for different types of housing. However, the hedonic technique also has a number of disadvantages. Because in this case it uses the AHS, the hedonic measure suffers from the same lack of geographic detail below the census region as the AHS median prices and is subject to the same biennial frequency.

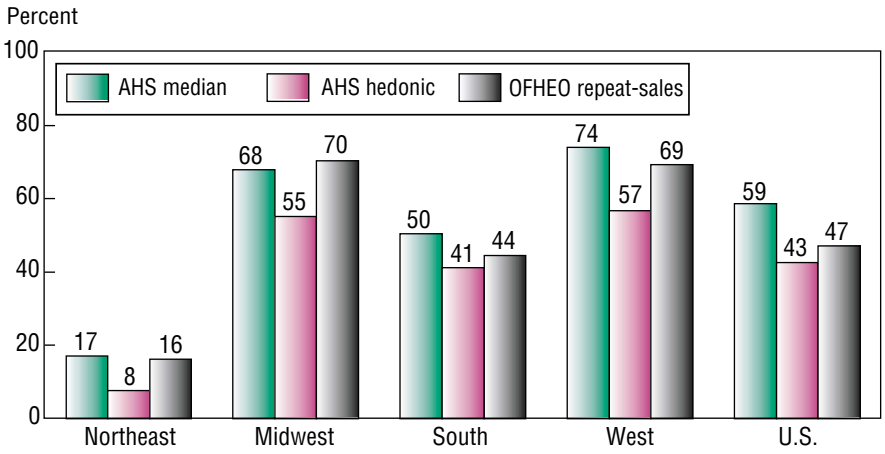
Repeat-Sales Index

The OFHEO rural house price index is published at the census division level by quarter. Indexes are available for the 50 States and the District of Columbia, the nine census divisions, individual metro areas, and the nonmetro portions of census divisions. In order to compare it to measures derived from the AHS, the quarterly indexes are first converted into annual averages for 1989 and 1999. Then the division-level annual indexes are aggregated into their appropriate census regions using the number of nonmetro owner-occupied housing units by census division from the 1990 Census of Housing and Population as weights. The OFHEO repeat-sales index provides more regional data for nonmetro housing prices than the AHS. In addition, the OFHEO rural house price index is calculated quarterly. However, the repeat-sales index is designed to measure constant-quality changes in housing prices but not constant-quality price levels. Thus, a repeat-sales index cannot be used to compare the costs of housing units in urban and rural locations at a given point in time. Furthermore, the repeat-sales index by OFHEO, in particular, provides data only on a metro-nonmetro basis without the additional distinction between urban and rural made in the AHS. Finally, the OFEHO index includes only single-family detached properties financed by conforming conventional mortgages. Thus attached, multi-unit, and mobile homes are excluded as are homes financed with government-insured loans or properties that exceed the loan limits on mortgages purchased by Fannie Mae and Freddie Mac (Office of Federal Housing Enterprise Oversight).

Real Household Income

Measures of average household income by metro status are calculated from the AHS microdata for 1989 and 1999. Values for 1989 are adjusted to 1999 dollars using the Consumer Price Index.

Figure 2
Measures of nonmetro housing price change, 1989-99
Different measures paint a similar picture of nonmetro housing price change during the 1990s



Source: Calculated by ERS using data from the American Housing Survey and the OFHEO House Price Index.

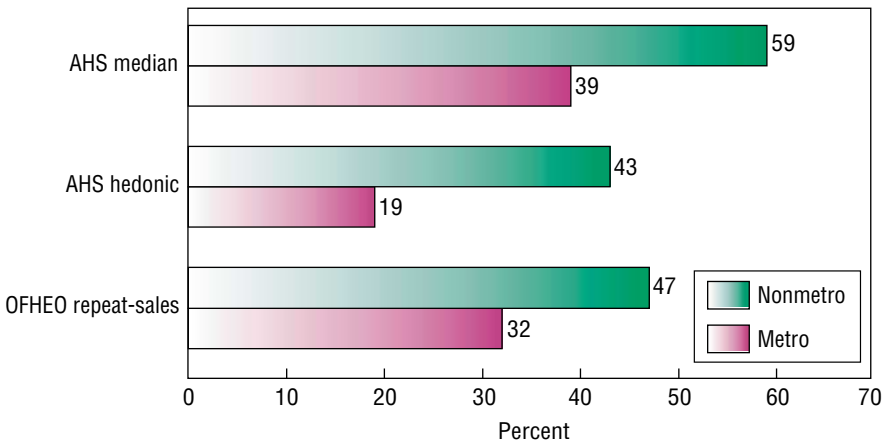
in each region, median prices rose more rapidly during the 1990s than did the hedonic price index (for example, 50 percent vs. 41 percent in the South). This result is not surprising, since the median tracks the house price in the middle of the distribution while the hedonic index measures changes in the price of a constant-quality house. If the average quality levels of housing are rising over time, then median prices capture changes in constant-quality prices plus changes in housing quality levels.

The OFHEO repeat-sales index provides another measure of constant-quality housing prices, and it too rises less rapidly than median prices. Nationwide, it estimates that nonmetro home prices rose by 47 percent during the 1990s (fig. 2). In each region, repeat-sales prices rose faster than constant-quality hedonic prices.

Given the differences in data sources and methodology, one would not expect the two measures of constant-quality housing price change to agree precisely. However, the fact that the repeat-sales index rises faster in every region suggests that it may systematically estimate higher price growth than the hedonic index. This could occur because the repeat-sales index may not control for differences in quality to the same degree as the hedonic index. For example, a repeat-sales index does not adjust for the fact that an owner may have made value-enhancing improvements (Pollakowski). In such a case, the quality level of the housing unit has risen and therefore the increase in its sales price would overstate the price increase that would have occurred if the house were unimproved. Also, prices of the type of house covered by the OFHEO repeat-sales index may have risen faster than the prices of the broader range of housing types covered by the AHS.

Despite the differences among the measures of housing price change, they concur on many points. Nonmetro home prices rose fastest in the West, followed by the Midwest and the South, and rose most slowly in the Northeast. Whether measured by median prices, the AHS-based hedonic price index, or the OFHEO repeat-sales index, nonmetro housing prices

Figure 3
Metro and nonmetro home price change, 1989-99
By any measure, nonmetro housing prices rose faster than metro housing prices

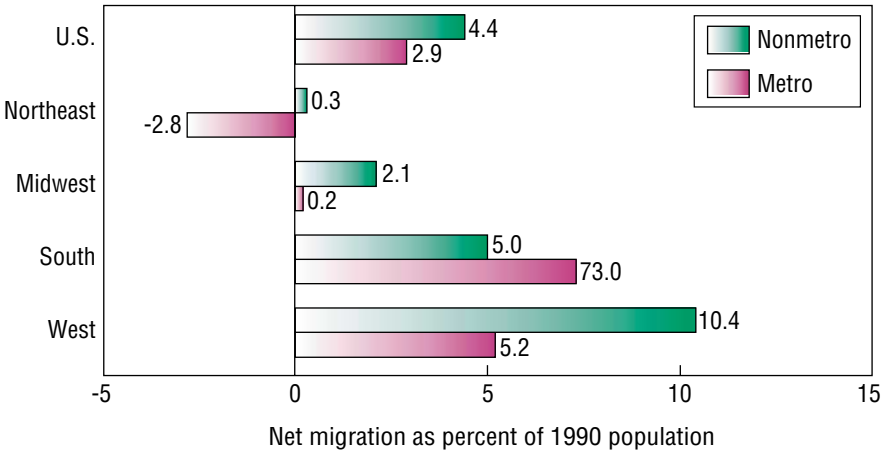


Source: Calculated by ERS using data from the American Housing Survey and the OFHEO House Price Index.

Figure 4

Net migration rates, 1990-99

Nonmetro net migration rates exceeded metro net migration rates in the Northeast, Midwest, and West



Source: Calculated by ERS using data from the Bureau of the Census.

rose more rapidly than housing prices in metro areas during the 1990s (fig. 3).

Migration and Income Growth Drove Up Rural Housing Prices

The rapid increase in rural housing prices during the 1990s resulted from a major increase in the demand for rural housing. The number of owner-occupied households in rural areas grew much more rapidly than in metro areas during the 1990s (table 2). Driving the increase in housing demand were strong net migration to nonmetro areas and rapid income growth. Between 1990 and 1999, net migration to nonmetro areas totaled 2.2 million while net migration to metro areas totaled 5.8 million (Beale). However, the rate of net migration was much greater for nonmetro areas, increasing their population by 4.4 percent over the period compared with 2.9 percent in metro areas (fig. 4).

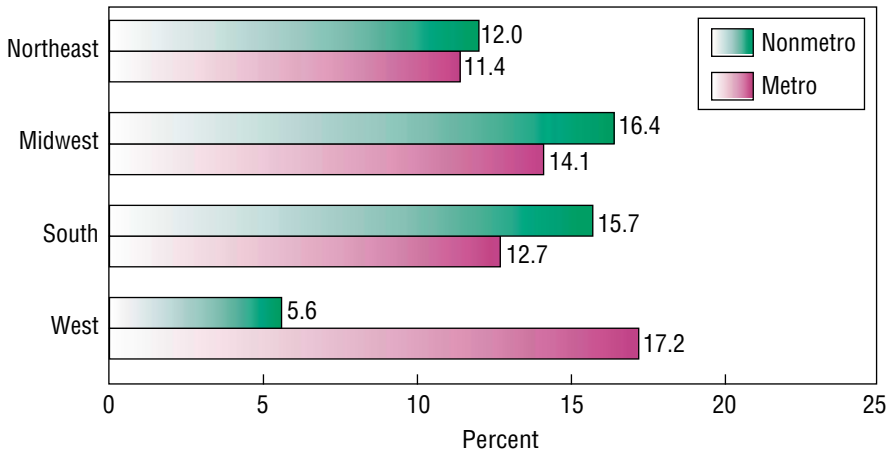
Partly as a consequence of higher net migration, the constant-quality price of housing in nonmetro areas increased by 42.6 percent during the period 1989-99, versus 19.3 percent in metro areas (table 4). The link between migration and housing prices is also evident at the regional level. Nonmetro net migration rates exceeded metro area migration rates in the Northeast, Midwest, and West (fig. 4). The hedonic index indicates that nonmetro constant-quality housing prices in those regions rose faster than metro housing prices (table 4). Furthermore, among these three regions, housing price growth accelerated with the rate of net migration. Thus, the nonmetro Northeast, with the smallest rate of net migration (0.3 percent), saw housing prices grow just 7.6 percent, while the nonmetro West (with rapid net migration of 10.4 percent) saw the fastest increase in housing prices (56.7 percent).

Household income is another important determinant of housing demand. Increases in real household income tend to increase the demand for owner-occupied housing. According to income data from the American Housing Survey (adjusted to constant 1999 dollars; see "Data, Definitions, and Methods"), average real household income of homeowners in nonmetro areas grew faster between

Figure 5

Homeowner real income growth, 1989-99

Real household income of homeowners grew faster in the nonmetro Northeast, Midwest, and South during the 1990s



Source: Calculated by ERS using data from the American Housing Survey and the Consumer Price Index.

1989 and 1999 than in metro areas in the Northeast, Midwest, and South (fig. 5). And in these three regions, the increase in constant-quality nonmetro housing prices tracked the growth in real homeowner income. For example, both real household income of homeowners (up 16.4 percent) and constant-quality housing prices (up 55.2 percent) grew fastest in the nonmetro Midwest (table 4, fig. 5).

Conclusion

Evidence from the American Housing Survey and the OFHEO Rural House Price Index indicates that housing prices in rural and nonmetro areas increased rapidly during the 1990s. Rapidly rising housing prices are a boon to current homeowners, who receive an increase in wealth through the rising return on their investment. For renters in rural areas striving to become homeowners, however, rising home prices make homeownership harder to obtain. Although the growth rate of rural housing prices began to level off in the late 1990s (Office of Federal Housing Enterprise Oversight), the higher level of home prices poses a particular challenge for renters with lower incomes. Policies designed to help residents of rural areas become homeowners must take into account regional differences in the price of housing of a given quality as well as changes in those prices over time. RA

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