The Geography of Pandemic-Era Home Price Trends and the Implications for Affordability

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Abstract

Home prices rose at an unprecedented pace in the aftermath of the COVID-19 pandemic as interest rates fell to record lows, the large cohort of millennials aged increasingly into prime homebuying years, and the supply of housing available for purchase remained limited. Using county-level data from Zillow and the US Census Bureau's American Community Survey, this paper shows that home price growth was widespread across market types from March 2020 to March 2023, but increased most rapidly—rising by more than one-third—in rural counties, smaller metro areas, and the lower-density suburbs of large metro areas. By comparison, home prices rose by just 21 percent on average in higher-density urban counties. These trends represent a stark reversal from most of the past decade, when home prices had risen most rapidly in urban and higher-density areas, and they have enormous implications for affordability, especially in places that were previously more affordable. In rural counties, for example, home-value-to-income ratios rose from 2.5 in 2017 to 3.9 in 2023, meaning that the typical home value was nearly four times the median household income on average in those places, suggesting that many existing households could increasingly struggle to afford housing even in the nation's lower-cost markets. Affordability worsened across market types, however, with home values rising to 6.0 times higher than household incomes in the densest urban counties.

Introduction and Background

The COVID-19 pandemic precipitated an unprecedented rise in home prices across the US. According to nearly every measure available, prices rose faster in the years following the pandemic than at any point in recent history, setting and re-setting records for price growth, sales prices, and home values. To give just one example, the typical home value across the US was $244,000 in March 2020 according to data from Zillow, and within three years had risen an astounding 36 percent, up to $332,000.[1] In other words, typical home values rose $88,000 over this period, nearly the same as the $90,000 rise in home values in the eight years preceding the pandemic.

This rapid rise in home prices was the result of numerous factors, including record-low interest rates, elevated demand for private indoor and outdoor space, and the culmination of longer-term demographic trends, particularly the aging of a growing number of millennials into their peak homebuying years.[2] Many potential homebuyers were also flush with cash and able to bid up home prices, as savings during the pandemic ballooned when spending on travel, restaurants, and other non-essential services was largely paused.[3] For some potential buyers, cash on hand was supplemented when the federal government paused student loan payments and provided other forms of assistance to help households weather the worst of the crisis's economic impacts.

And just as demand for housing rose sharply, there were not enough homes to go around. Following a decade or more of limited housing construction, longer-term and pervasive housing supply shortages were made especially acute in the face of such demand. Although estimates of the long-run supply shortage vary with differences in key assumptions used in different studies, nearly all pointed to a deficit of homes in the millions.[4] This shortage manifested as a frenzied homebuying market with limited options for many potential buyers. The number of homes available for sale was at record lows across the country, and homes that had previously been on the market for months were now being sold within weeks if not days.

While these market conditions were incredibly widespread, home price growth was not uniform geographically. Indeed, the proliferation of remote work enabled many households—with more workplace flexibility and unburdened by daily commuting—to look further afield (within and outside of their market) for their housing. According to the Census, the share of workers who usually worked from

[1] The typical home value is the average value for homes in the 35th to 65th percentile range.
[2] Joint Center for Housing Studies of Harvard University (2020).
[3] Barbiero and Patki (2023).
[4] McCue and Huang (2024).

home in the US tripled from 6 percent in 2019 to 18 percent in 2021, and then remained elevated at 15 percent into 2022.[5] By one estimate from the Federal Reserve Bank of San Francisco, the increased prevalence of remote work was responsible for more than half of the increase in home prices between November 2019 and November 2021.[6]

Growing workplace flexibility accelerated migration trends away from larger, higher-cost metro areas and higher-density, higher-cost counties and toward lower-density, lower-cost counties and rural areas. Broadly speaking, these migration trends existed long before 2020. But the pandemic considerably accelerated and amplified the flight to affordability. According to research from Freddie Mac, for example, homebuyer migration from higher-cost metro areas towards smaller, more affordable markets was up threefold in the aftermath of the pandemic.[7]

As households moved increasingly into lower-cost places, they disproportionately pushed up home prices in these areas. This increase is especially notable in places where existing residents have modest incomes and could be, as a result, effectively priced out of their own market. Indeed, house prices early in the pandemic rose faster in rural areas than in metropolitan areas, with the most pronounced price growth in more affordable suburbs and smaller cities.[8] Other research directly connects the growing prevalence of working from home to the geography of home price growth. Indeed, the increased prevalence of remote work and resulting migration patterns led to a "donut effect" of home price growth, with slower growth in the central business districts of large metros and more rapid growth in lower-density suburbs.[9]

The present research attempts to shed additional light on the geography of pandemic-era home price trends. We consider the unprecedented growth in home prices by placing them in their longer- and shorter-term historical context, and we consider the implications for affordability, both within and across metro and non-metro areas. We also consider whether these disparate home price trends continued into 2023, even as the housing market adjusted to higher interest rates. Our research addresses the following research questions:

- Where did home prices rise most rapidly during the pandemic? How do those trends compare to pre-pandemic home price trends over the short and long term?

[5] Burrows and Burd (2024).
[6] Kmetz, Mondragon, and Wieland (2022).
[7] Khater and Yao (2022).
[8] Li and Zhang (2021).
[9] Ramani and Bloom (2022).

- Did differences in the geography of home price growth persist into 2023 as the housing market cooled?
- What has the disparate rise in home prices meant for housing affordability in previously affordable market types?

Using county-level data from Zillow and the American Community Survey, we find that home values in the three years after the start of the pandemic rose most on average in rural areas, smaller markets, and lower-density suburbs. Indeed, between March 2020 and March 2023, average home values increased more than a third—or about 36 percent—in counties outside of metro areas, counties in smaller markets, and the lower-density suburbs of large metro areas with over 1 million people, compared to just 21 percent growth in the higher-density urban counties of large markets. These trends contrast with home price trends over the past decade, when home values rose most in large metro areas, including in urban counties. Early signs through the end of 2023 suggest home price growth might again be stronger in large markets and dense urban counties in particular. Still, the unequal home price growth in the past several years has had enormous implications for affordability, especially in previously lower-cost places. While affordability worsened everywhere, home-value-to-income ratios in rural counties rose most, from 2.5 in 2017 to 3.9 in 2023, meaning that the typical home value was nearly four times the median household income on average in those places, suggesting that many existing households could increasingly struggle to afford housing even in the nation's most affordable places. Affordability was still worst in dense urban counties, with home values 6.0 times higher than incomes in 2023.

Data and Methods

The main data sources for this analysis were the Zillow Home Value Index (ZHVI) and the American Community Survey. Monthly, county-level home price data were obtained from Zillow, which provides estimates of typical home values.[10] Zillow home value data is commonly used in other research on housing markets because of its broad geographic coverage, extensive time series, and reliability.[11] We use Zillow data in our research because it provides the only monthly market-based estimate of home values available for such a broad set of US counties, including those in rural areas. However, there are

[10] Throughout this paper, we use the terms typical home value, home value, and home price interchangeably to refer to typical home values as defined by ZHVI. Data were downloaded on February 15, 2024. See the Zillow Research Data website for further information on the ZHVI methodology: https://www.zillow.com/research/methodology-neural-zhvi-32128/

[11] For one example of research using Zillow home value data, see Chan, Dastrup, and Ellen (2016).

some limitations to using Zillow data. Firstly, while there is extensive documentation, Zillow estimates rely on private source data inaccessible to researchers, and the underlying methodology is not fully explained. Secondly, Zillow data is updated frequently, and estimates of home value and the geographies covered can change suddenly as the source data and methods for estimating change. We obtain county-level demographic data from the US Census Bureau's 2021 American Community Survey 5-Year Estimates.

To compare home values and changes in home values across geographies, we produce estimates of the average typical home value by geographic categories of counties and then calculate this average value's annual and monthly change. Typical home price estimates are weighted by the number of homeowners in each county.

We also examine changes in homebuyer affordability for existing households in a community by constructing monthly value-to-income ratios for each county. Income data are an average from 2017 to 2021 and are unchanging, due to the lack of household income data at the county level, particularly in smaller rural counties that are an important focus of this research.[12] Instead, changes in value-to-income ratios are driven solely by changes in home values and are best viewed as a measure of affordability for existing or long-time households, rather than higher-income domestic migrants. Higher-income, more affluent households have become more likely to move since the start of the pandemic and can have an outsized effect on existing housing markets.[13]

In reality, household incomes also change over time and, in general, have risen over this period, though not as quickly as home values. To illustrate how our measure of affordability might vary if we used a more dynamic measure of income, we consider how the home-value-to-income ratio for the nation overall would vary using a static measure of household income (from the 2021 American Community Survey 5-year data) and a varying measure of household income (from American Community Survey 1-Year estimates from 2017 through 2022). We find the value-to-income ratio using the ACS 5-year data increases from 3.0 in 2017 to 4.8 in 2022. However, when household incomes are allowed to rise over time using the ACS 1-year data, the home-value-to-income ratio increases from 3.5 in 2017 to 4.5 in 2022. In other words, a static measure of household income produces somewhat higher estimates of value-to-income ratios nationally in more recent periods, somewhat lower estimates in

[12] Income data from 2021 were utilized instead of more recent data from 2022 due to changes in county equivalent geographies in Connecticut that would have necessitated their exclusion. See US Census Bureau notice for additional details on Connecticut's county boundary changes at https://www.census.gov/programs-surveys/acs/technical-documentation/user-notes/2023-01.html.

[13] Frost (2023).

earlier periods, and a more exaggerated increase over time when household incomes generally rise. To mitigate some of the potential bias, our analysis focuses on averaged and aggregated home-value-to-income ratios across county types.

In order to evaluate the home price trends by different market subtypes, we distinguish counties by their metro area status, metro area population, and county density.[14] The resulting five categories we identify are a common proxy for urban, suburban, and rural areas used in housing and demographic research. Counties in large metropolitan areas with a population at least 1 million people are sorted into three categories by density: higher-density urban counties, moderate-density suburban counties, and lower-density suburban counties. Additionally, we split the remaining counties outside large metro areas into two final categories: one category for counties in smaller metropolitan areas with populations under 1 million and another category for all counties outside metropolitan areas, including micropolitan areas, a common proxy for rural.

The primary data challenge for this research is that Zillow's geographic coverage is incomplete by county. In other words, home value estimates are not provided for every county each month, especially for non-metro counties crucial to this research. In 2000, for example, Zillow produced estimates for counties covering about three-quarters of the US population, including just one-third of the population living in rural counties **(Figure 1).** Population coverage has increased steadily over time, nearing complete coverage across all geographic types by 2023.

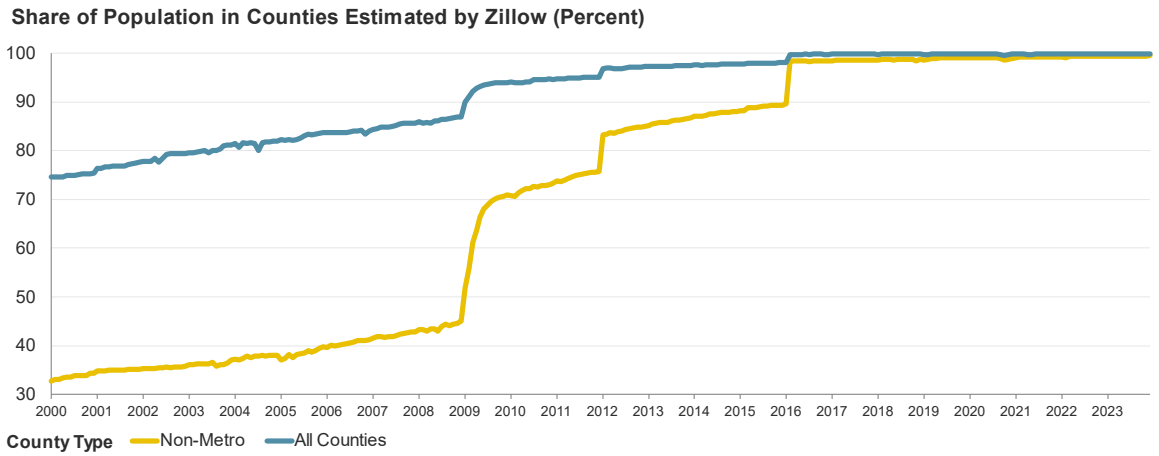
To address this varying geographical coverage, and to keep the set of counties we examine consistent over time, we include counties in our sample only if they have complete coverage over the relevant timeframe.[15] This ensures that home value trends we report are not the result of counties that are added or eliminated from our sample at different points in time. Given the importance of rural counties in our research, and to examine both long- and short-term home value changes, we produce estimates of home price trends over two time periods: one sample beginning in 2012 and a second sample beginning in 2017 **(Table 1).** The 2012 sample includes 2,415 of 3,143 counties in the US—covering 97.2 percent of the total US population but just 84.5 percent of the rural population. We use the 2012 sample only when looking at home price trends over a longer timeframe going back to 2012. The later sample from 2017 allows us to look at the periods immediately before and after the pandemic

[14] We follow Jed Kolko's scheme for classifying market subtypes by population and density. See his website for further details: https://jedkolko.com/datasets/.

[15] A small number of counties (110 in the 2012 sample and 35 in the 2017 sample) had incomplete coverage over the timeframe but had four or fewer consecutive missing observations. These are included in our sample, with the home value estimates interpolated. Our results are robust to the exclusion of these counties.

but includes a more substantial 2,979 counties covering 99.8 percent of the US population, including 98.6 percent of the population in non-metro counties. We use this sample in our analysis when reporting home price trends in the three years immediately before and after the start of the pandemic.[16]

Figure 1: Zillow Geographic Coverage Has Improved Steadily Over Time, Especially for Rural Counties



Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Table 1: County Description by Geography Type

County Type	Metro Area Population	County Density (People/Sq. Mile)	Number of Counties		Share of Population (Percent)	
			2012 Sample	2017 Sample	2012 Sample	2017 Sample
Higher-Density Urban	1+ million	2,000 and Over	65	65	100.0	100.0
Moderate-Density Suburb	1+ million	1,000-1,999	61	61	100.0	100.0
Lower-Density Suburb	1+ million	Under 1,000	312	316	99.6	100.0
Smaller Metro	<1 million	n/a	681	727	97.8	100.0
Non-Metro	n/a	n/a	1,296	1,810	84.5	98.6
Total			**2,415**	**2,979**	**97.2**	**99.8**

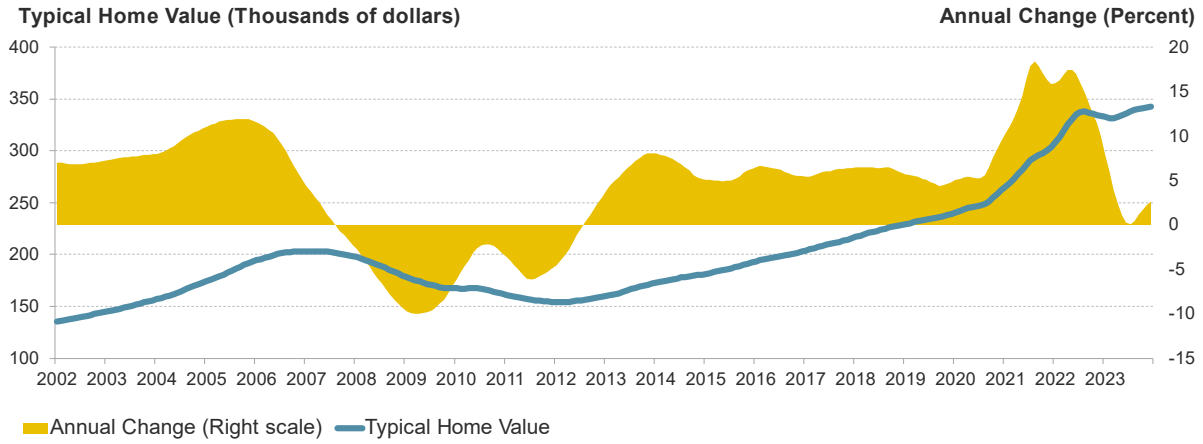
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

[16] Notably, results do not vary meaningfully when using both samples over an equivalent timeframe.

Home Price Trends Before the Pandemic

Nationally, home prices increased steadily for much of the 2010s, as the housing market slowly recovered from the Great Recession and foreclosure crisis **(Figure 2).** Home price growth then accelerated rapidly in 2020 after the start of the COVID-19 pandemic, as a combination of plummeting interest rates, the growing importance of private indoor and outdoor space, and the aging of the large millennial cohort deeper into prime homebuying years, among other factors, increased demand for housing. Home price growth slowed in the second half of 2022, and even declined for a short time, as interest rates increased. But in 2023, despite persistently higher rates, home values began to increase, albeit at a less frenzied pace, rising modestly through the end of the year.

Figure 2: Home Values Rose Steadily for Nearly a Decade Before Accelerating Soon After the Start of the Pandemic



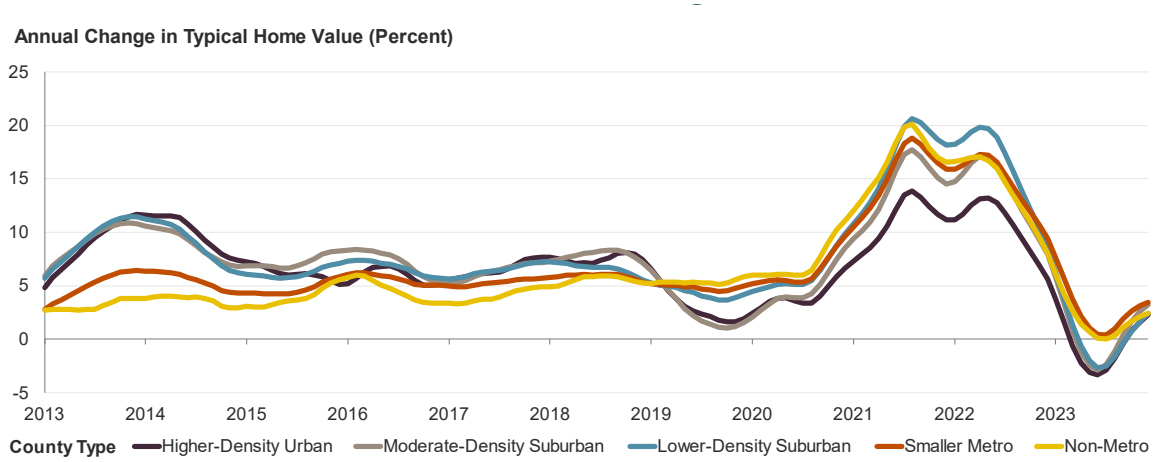
Source: JCHS tabulations of Zillow data.

During this decade of substantial home price growth, home values oftentimes rose more rapidly in densely populated portions of large metro areas than in smaller markets and rural areas **(Figure 3).** Strong demand for homes in city centers and suburbs due to their proximity to businesses, amenities, and services contributed to relatively higher home values and faster growth in these market types. Indeed, through 2018, home value growth in dense urban counties outpaced home value growth in rural counties nearly every month. Home value growth actually moderated in dense urban counties and higher-density counties in 2019, even before the pandemic, driven by strong price declines in counties in higher-cost coastal markets, particularly New York, San Francisco, San Jose, and Seattle.

As a result of disparate price trends for more than a decade, home price growth in the runup to the pandemic was heavily skewed toward large markets compared to smaller markets and non-metro areas. Indeed, in the eight-year period preceding the pandemic, from March 2012 through March 2020, typical home values rose 66 percent in urban counties and 69 percent in both moderate-density and lower-density suburbs of large metro areas when using our 2012 sample. By contrast, home values rose just 50 percent in smaller metro areas and 42 percent in non-metro areas.

Given the already higher home prices, the absolute increase in home values was three times higher in urban counties and moderate-density suburbs than in non-metro areas. Between March 2012 and 2020, the typical home value increased by $159,000 in urban counties and $148,000 in the moderate-density suburbs of large markets. Meanwhile, in rural areas, typical home values increased by just $49,000 over this period. The typical home value increased by $75,000 in smaller metro areas and $120,000 in lower-density suburban counties.

Figure 3: Until the Pandemic, Home Values Generally Rose Fastest in the Denser Counties of Large Markets



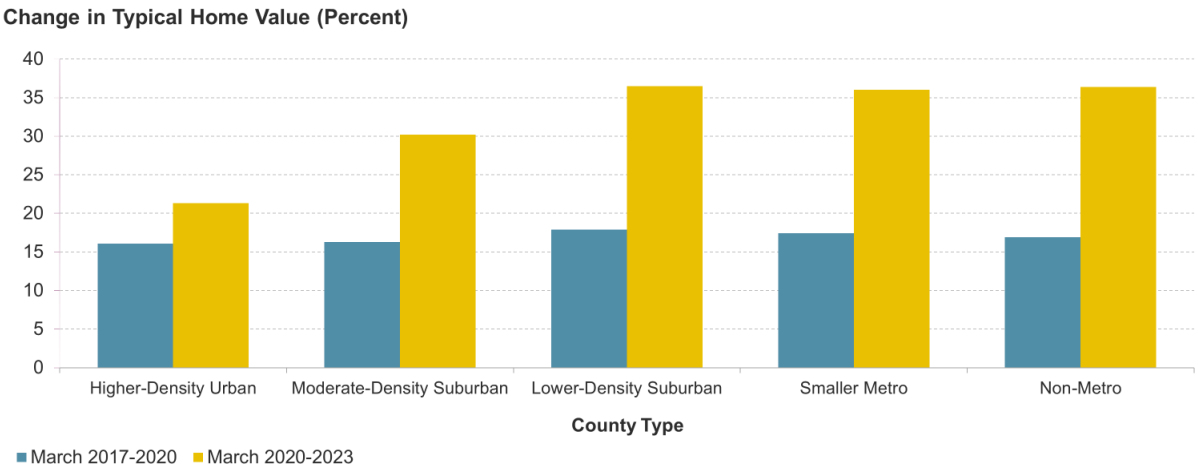
Notes: Estimates of average typical home value are weighted by the number of homeowners and use the 2012 sample of counties described in the paper. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Pandemic-Era Home Price Trends

After the start of the pandemic, home values skyrocketed. Between March 2012 and March 2020, the typical home value in the US grew by $90,000, rising from $154,000 to $244,000. Incredibly, during the period from March 2020 to March 2023, the typical home value grew by nearly as much ($88,000). Indeed, within three years, home prices had risen an astounding 36 percent, up to $332,000. In the preceding three years, home prices had risen half as much at just 18 percent.

The growth in home prices following the start of the pandemic was remarkably widespread across the country, though its geographic distribution shifted compared to the pre-pandemic period. Unlike before the pandemic, home value growth was especially rapid in low-density suburbs of large markets, smaller markets, and rural areas. Using the 2017 sample of counties, we find that typical home values in non-metro areas rose from $163,000 in March 2020 to $222,000 in March 2023, an increase of 36 percent **(Figure 4).** Home prices rose by more than a third in the nation's smaller markets and lower-density suburbs as well. Indeed, between March 2020 and March 2023, the typical home value also rose 36 percent both in metro areas with under 1 million people and in the lowest-density counties of large metro areas with at least 1 million people.

Figure 4: After the Start of the Pandemic, Home Values Rose Most Rapidly in Lower-Density Areas and Rural Counties



Notes: Estimates of average typical home value are weighted by the number of homeowners and use the 2017 sample of counties described in the paper. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

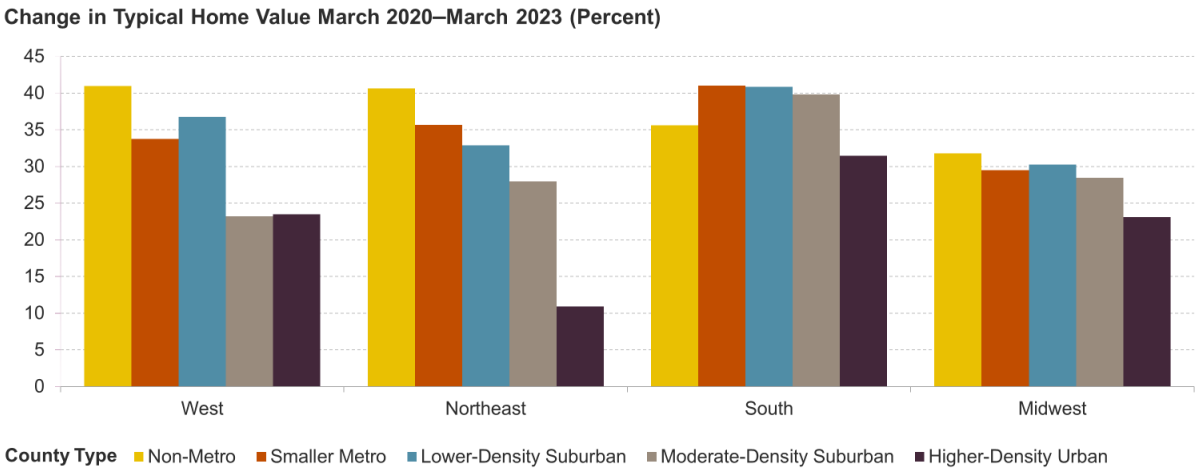
Home price growth was still robust, but much lower in the denser counties of large markets, especially the urban core. In the highest-density counties of large metro areas, for example, home prices rose 21 percent from March 2020 to March 2023. Meanwhile, home prices rose 30 percent in moderate-density suburban counties of these same large markets.

The outsized growth in home prices in non-metro areas represents a reversal of the trend from the pre-pandemic period. And in the three years immediately preceding the pandemic, from March 2017 to March 2020, home values rose between 16 and 18 percent across all county types, with somewhat higher growth in lower-density suburbs (18 percent) and somewhat lower growth in the urban core (16 percent).

The disparities in home price growth by geography were persistent across the country, with especially rapid growth in rural areas. For example, home price growth was stronger in non-metro areas, smaller markets, and lower-density suburbs than in urban counties in all four Census Regions from March 2020 to March 2023 **(Figure 5).** Home price growth was fastest in non-metro areas in all regions outside the South. In the Northeast, for example, home prices in rural counties rose 41 percent between March 2020 and March 2023, 30 percentage points higher than home price growth in dense urban counties in the region (where home value growth was relatively slow on average). Similarly, non-metro home prices also rose 41 percent in the West, 36 percent in the South, and 32 percent in the Midwest during the pandemic. Uniquely in the South, home values rose fastest, at about 41 percent, in smaller markets and lower-density suburbs of large markets.

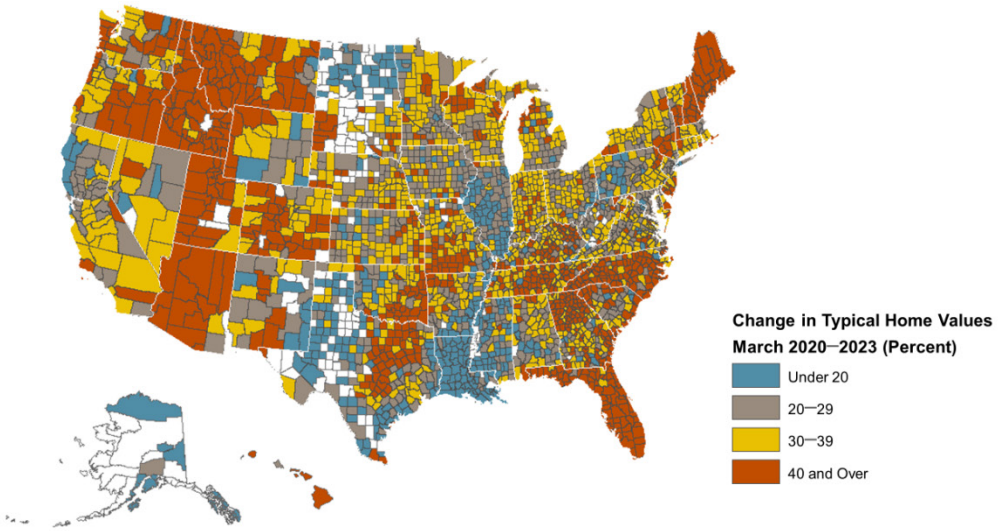
Average home value trends mask considerable variation in home price growth in counties across the country. Between March 2020 and March 2023, home values rose by more than 30 percent in nearly two-thirds of counties nationally, including a rise of at least 40 percent in over a quarter of counties **(Figure 6).** Counties with outsized price growth were far more common in non-metro areas. Indeed, home values rose by more than 40 percent in 31 percent of rural counties. The growth in typical home values also exceeded 40 percent in 28 percent of counties in smaller metro areas and in moderate-density and lower-density counties of large metro areas. By contrast, just 18 percent of denser urban counties had price growth exceeding that threshold.

Figure 5: Home Price Growth Was Most Robust in Rural Counties in the West and Northeast



Notes: Estimates of average typical home value are weighted by the number of homeowners and use the 2017 sample of counties described in the paper. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Figure 6: Home Values Rose Markedly in Most Counties



Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Recent Home Price Trends Since March 2023

Home value growth stalled in late 2022 through early 2023 for seven consecutive months as interest rates rose, but home values began increasing again in April 2023. Demand for homes remained strong through the end of 2023 despite elevated interest rates, in part due to the substantial millennial cohort in their peak homebuying years, a resilient job market, and strong wage growth. At the same time, the severely limited supply of homes for sale persisted, resulting in the continued increase in home values across the country. Indeed, between March and December of 2023, the national typical home value grew for nine straight months, up by $11,000 to $343,000.

Whether the geography of home price growth witnessed during the pandemic will persist, alter, or reverse, and what the implications of this trajectory will be for affordability, remain important questions. Through the end of 2023 at least, the disparity in home price growth across county types has shifted from the pandemic period: trends in home price growth now more closely resemble pre-pandemic patterns, with home values increasing more uniformly but now fastest in the densest urban counties of large markets and slowest in rural counties. At an annualized rate of growth between March and December 2023, home values in urban and moderate-density suburban counties rose 6 percent, by 5 percent in low-density suburbs and smaller metro areas, and by just 4 percent in non-metro counties.

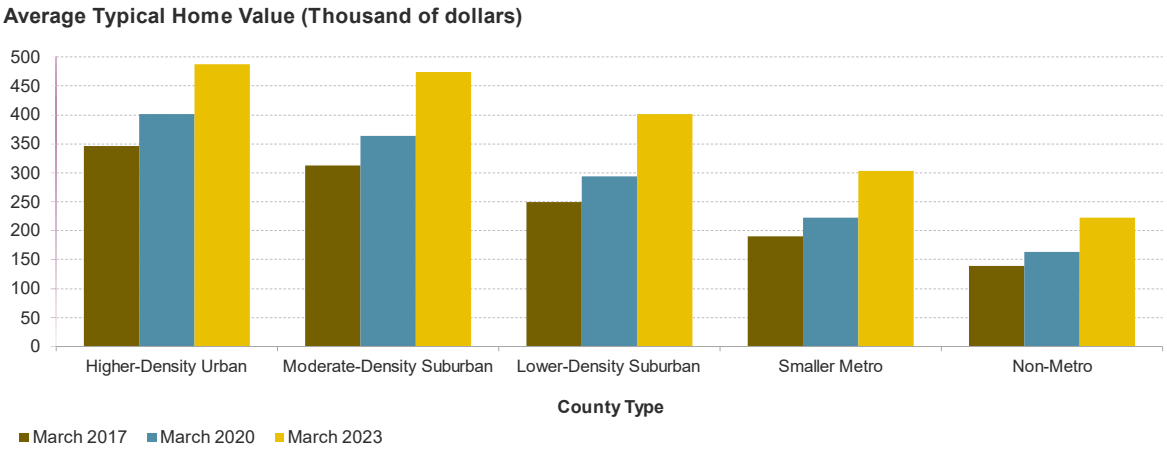
The future trajectory of the geography of home prices depends on numerous factors, including the continued prevalence of remote work, the relative affordability of different geographies, the ability of the existing stock in those places to accommodate new households, and the amount and type of new housing that can be added to these market types.

In any case, the combination of home price trends before, during, and after the pandemic has pushed up the cost of housing everywhere, but especially in lower-density market types, and that increase has significant implications for affordability. Indeed, between January 2017 and December 2023, home values grew the most in low-density suburban counties (69 percent), followed closely by counties in smaller metros (67 percent) and non-metro areas (65 percent). Meanwhile, home values rose by 61 percent in moderate-density suburban counties and 50 percent in the urban counties of large metros. This trend was undoubtedly driven in part by the prevalence of working from home since the start of the pandemic. If substantial shares of the population remain able to work from home in the future, demand for homes in counties farther from urban centers and central business districts could continue to rise.

Implications for Affordability

The continued prevalence of remote work has had an enduring effect on the housing market, enabling homebuyers to take advantage of the relative affordability of non-metro areas and smaller markets, in particular. Indeed, even following the dramatic rise in home prices, these market types still have significantly lower home values than the densest portions of large markets. In March 2023, typical home values remained much lower in non-metro areas ($222,000) especially, as well as in smaller markets ($303,000) and lower-density suburbs ($402,000); values in urban counties ($487,000) and higher-density suburbs ($474,000) were higher **(Figure 7).** In other words, homes in rural areas had less than half the value of homes in urban counties and denser suburbs, while homes in smaller markets had about two-thirds the value of those same homes.

Figure 7: Home Values Remained Highest in Dense Urban Counties and Lowest in Rural Areas



Notes: Estimates of average typical home value are weighted by the number of homeowners and use the 2017 sample of counties described in the paper. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

However, as price pressures in these markets continue to mount, changing home values have important implications for affordability, especially in market types with modest incomes and especially for existing households. Indeed, household incomes are generally lower in the places that have experienced the most robust growth in home prices since the start of the pandemic, especially rural areas. Median household income, for example (weighted by the number of households), was just $54,000 in non-metro counties on average, significantly lower than in smaller metro areas ($64,000),

urban counties ($77,000), moderate-density suburbs ($85,000), and lower-density suburbs ($79,000) in large metro areas. Rapidly rising home values during the pandemic have exacerbated affordability challenges in many markets and have created them in market types that were previously affordable and where incomes are often lower.

Home-value-to-income ratios, a measure of affordability that simply compares estimates of typical home values to the median household income in a given place, help illustrate these growing challenges. A rise in home prices relative to incomes reflects the growing difficulty for potential homebuyers to afford ongoing mortgage payments, especially when interest rates are high; higher home prices also require buyers to have additional savings needed for a down payment, often the largest obstacle to buy a home.[17]

Recall that our estimate of household income is held static over this period, though home values change over time. While in reality household incomes have also changed, and generally increased, over this period, median household incomes don't rise nearly as rapidly as home prices. However, because incomes generally do increase over time, the measure of affordability we present likely overestimates value-to-income ratios in more recent periods and the extent of their growth over time, especially in counties or county types where incomes have grown rapidly. To mitigate some of the potential bias, our analysis focuses on averaged and aggregated home-value-to-income ratios across county types. In any case, these estimates should best be thought of as the home-value-to-income ratio for long-time or existing residents.

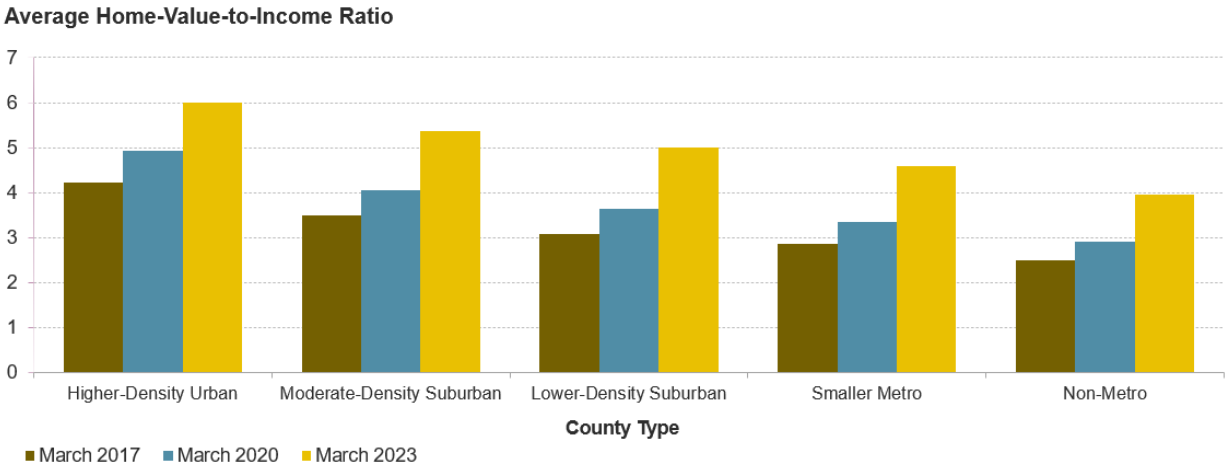
By this measure, home values relative to household incomes are consistently highest, and affordability consistently worst, in urban counties. In March 2023, typical home values were 6.0 times as much as the median household income in the densest urban counties of large metro areas. Value-to-income ratios were also above 5.0 in moderate-density (5.4) and lower-density (5.0) suburban counties in these same metro areas **(Figure 8).** By comparison, the value-to-income ratio was 4.6 in smaller metro areas and just 3.9 in non-metro counties.

Affordability has worsened considerably across all market types in only a short period of time. In non-metro areas, for example, value-to-income ratios were just 2.5 in 2017, and they rose to 2.9 by the start of the pandemic in March 2020 before rising even more rapidly through 2023 to 3.9 as home prices skyrocketed. Importantly, value-to-income ratios in rural counties in 2023 had risen to such an extent that they were well above the 2017 value-to-income ratios of smaller markets (2.9), lower-density (3.1),

[17] For a broader discussion of the barriers to homeownership, including down payments in particular, see Wilson and Callis (2013).

and moderate-density (3.5) suburban counties, and were even approaching the 2017 value-to-income ratios in urban counties (4.2). In other words, the rapid increase in home values after the start of the pandemic in non-metro areas in particular had made these previously less expensive markets as unaffordable as large markets in the pre-pandemic period, on average.

Figure 8: Relative to Existing Income Levels, Affordability Deteriorated in Every Market Type



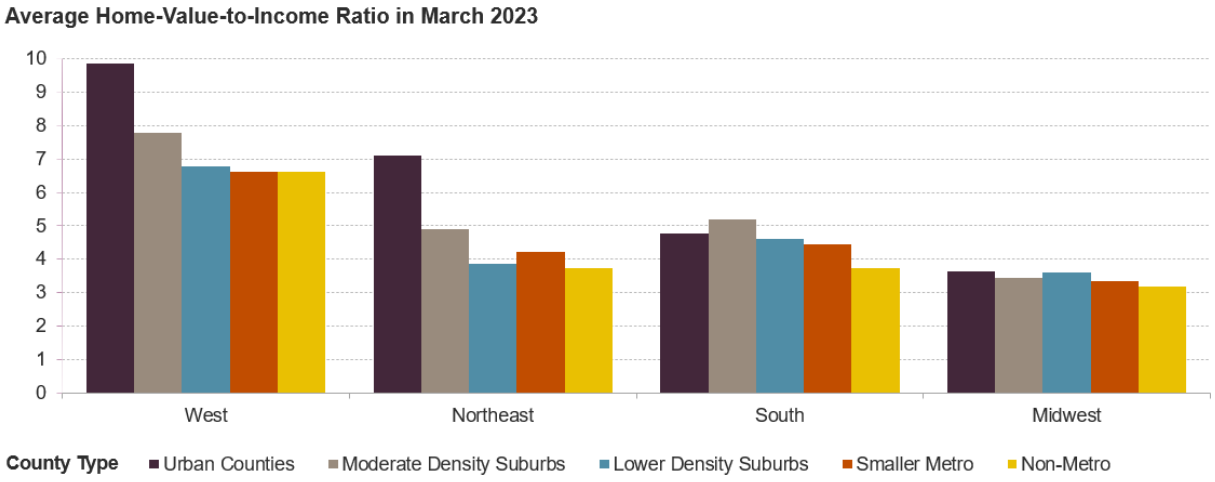
Notes: Estimates of average home-value-to-income ratio are weighted by the number of homeowners and use the 2017 sample of counties described in the paper. Median household incomes are a static measure, while typical home values change over time. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Value-to-income ratios also vary by region and were especially high in the West **(Figure 9).** Indeed, average home values were 9.8 times higher than incomes in dense urban counties in the region (up from 6.6 in 2017) and were even 6.6 times higher than incomes in non-metro counties (up from 3.9). The home-value-to-income ratio in rural counties was 3.7 in the Northeast and South (up from 2.4 in both regions) and 3.2 in the Midwest (up from 2.1). Higher-density urban counties in the Northeast also had especially high home-value-to-income ratios at 7.1.

The share of non-metro counties with relatively low and relatively high home-value-to-income ratios also shifted substantially over this period, suggesting that many previously affordable places became significantly less affordable to existing households. In 2017, 40 percent of rural counties had a value-to-income ratio under 2.0; by 2023, only 10 percent of rural counties did. On the other end, the share of rural counties with home-value-to-income ratios above 5.0 rose from just 2 percent of counties

in 2017 up to 14 percent by 2023. Affordability was still worse in other market types, with value-to-income ratios exceeding 5.0 in 2023 in 49 percent of urban counties, 44 percent in moderate-density suburbs, 22 percent of lower-density suburbs, and 21 percent of counties in smaller metro areas.

Figure 9: Home Values Far Outpaced Incomes, Especially in the West



Notes: Estimates of average home-value-to-income ratio are weighted by the number of homeowners by county type and use the 2017 sample of counties described in the paper. Median household incomes are a static measure, while typical home values change over time. Urban, moderate-density suburban, and lower-density suburban counties are in large metro areas with at least 1 million people.
Source: JCHS tabulations of Zillow ZHVI and US Census Bureau, 2021 American Community Survey 5-Year Estimates.

Conclusion

The COVID-19 pandemic resulted in the most substantial rise in home prices in modern US history. However, the growth in home prices was not uniform geographically, as typical home values increased most rapidly in the lower-density portions of large markets and outside of those markets altogether. These geographic trends stand in stark contrast to the period before the pandemic and have significant implications for affordability, potentially putting for-sale housing out of reach of existing households even in some of the nation's previously most affordable places. In the latter half of 2023, typical home values resumed rising even in the face of higher interest rates, but home prices again rose fastest in the higher-density portions of large metro areas, a reversal of the pandemic period. Whether disparate home price trends persist into the future will depend on several factors, especially the continuation of remote work trends, differences in affordability, and the ability of the existing (and new) housing stock in these places to accommodate household growth and shifting preferences.

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