

What is a Housing Shortage?

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Abstract

The United States has faced decades of increasing housing costs and declining construction. Many scholars and policymakers argue that increased housing supply is needed to combat inadequate availability. Some critics, however, argue that the nation faces no housing shortage except for a lack of units for extremely low-income renters, which could be addressed by leveraging existing housing stock and expanding the availability of rental vouchers. I argue instead for a continued emphasis on increasing supply as a mechanism to improve housing conditions. I show, first, that additional housing stock is associated with more units per net added resident in an area. Second, I demonstrate that increasing supply is associated with lower housing-cost growth, though other variables like household income growth are likely more important in explaining affordability. Finally, I contest the use of metropolitan geographies as the most appropriate level for examining housing affordability, given the nation's history of segregation and variation in access to opportunity.

Keywords

Housing shortage; Housing costs; Household formation

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Author Biographical Note

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Introduction

In the United States since 2001, renter mobility has declined substantially, the share of renter households with cost burdens has markedly increased, and the number of low-cost rental units has fallen off the cliff (Joint Center for Housing Studies 2022). Overall, the share of the nation's renters paying more than 30 percent of incomes to rent increased from 24 percent in 1960 to 48 percent in 2016—with a particularly large rate of increase for middle-income renters (Joint Center for Housing Studies 2017). At the same time, US housing production has declined; the number of new housing units added per additional resident was notably lower in the 2000s and 2010s than in the 1970s and 1980s, for example (Freemark 2023a). Are these sets of trends related?

In reviewing data on household formation and housing unit growth within metropolitan geographies over the past two decades, McClure and Schwartz (2024) argue that, in fact, there is no housing supply shortage, except for extremely low-income renters, as housing-unit growth has been faster than household formation over the past two decades. Moreover, they claim that increasing housing costs are not a product of inadequate housing supply. McClure and Schwartz suggest that the primary housing policy goal should be to maintain the current rhythm of housing production, while better allocating existing units to families with low incomes. Should we thus question the claims of numerous researchers (e.g., Been et al. 2019; Gyourko 2009) and policymakers—even some in the Biden Administration (White House 2022)—that additional housing is needed to reduce costs?

I argue for a continued research and policy emphasis on increasing housing supply as a mechanism to improve housing conditions in the United States—contesting their reasoning from several perspectives. First, I evaluate whether rates of household formation are a useful measure of the housing shortage. McClure and Schwartz (2024) gloss over the fact that household growth—their preferred indicator—is extremely closely correlated with housing stock growth. I show that additional housing stock is associated with more units *per additional resident*, suggesting that more supply offers families the opportunity to live in conditions they prefer. Moreover, by examining data from France, I show that the far higher housing stock growth there has reduced the number of people per dwelling unit at a faster rate than in the United States.

Second, I explore the relationship between housing supply and housing costs. I demonstrate a correlation between increased housing supply and lower rates of housing cost increases, including

when controlling for demographic variation. Though other local economic and social conditions, especially growth in household income, are likely a larger contributor to changes in housing cost—higher-income people may be bidding up prices—availability of housing stock remains important.

Finally, I question the use of metropolitan-level geographies to analyze housing shortages, a choice that is premised on the assumption that housing units across regions are substitutes for one another. Yet we know this is not the case. US metropolitan areas feature dramatic variation between neighborhoods in access to employment, transportation, public services, schools, and other matters important to quality of life. People want to live in some neighborhoods and not others—and this fact goes on to influence housing affordability. Addressing the overall housing supply means making sure that homes are in the places people want them to be.

Ultimately, McClure and Schwartz (2024) are too dismissive of the real conditions families throughout the country face in attempting to access housing. Their decomposition of the housing market by income—while important—nevertheless does not address exactly *what* a housing shortage is, notably insofar as it misses important differences between neighborhoods *within* metropolitan areas. In the process, they only tell part of the story. Ultimately, my contention is that the United States continues to face a supply shortage, as millions of people are unable to access housing units they can afford and that simultaneously fit their needs in the communities they desire.

Household Formation is an Inadequate Indicator of the Housing Shortage

Let me begin by considering how we measure the housing shortage. McClure and Schwartz (2024) use a comparison between growth in households (household formation) and growth in housing units to argue that unit growth was adequate over the period from 2000 to 2020. They show, for example, that the nation added 24.2 million housing units and 21.1 million households. They then note that only 1 percent of metropolitan areas experienced both increasing household growth and lower-than equivalent increases in housing stock. In this sense, there is no housing shortage, or at least, the shortage is becoming less acute.

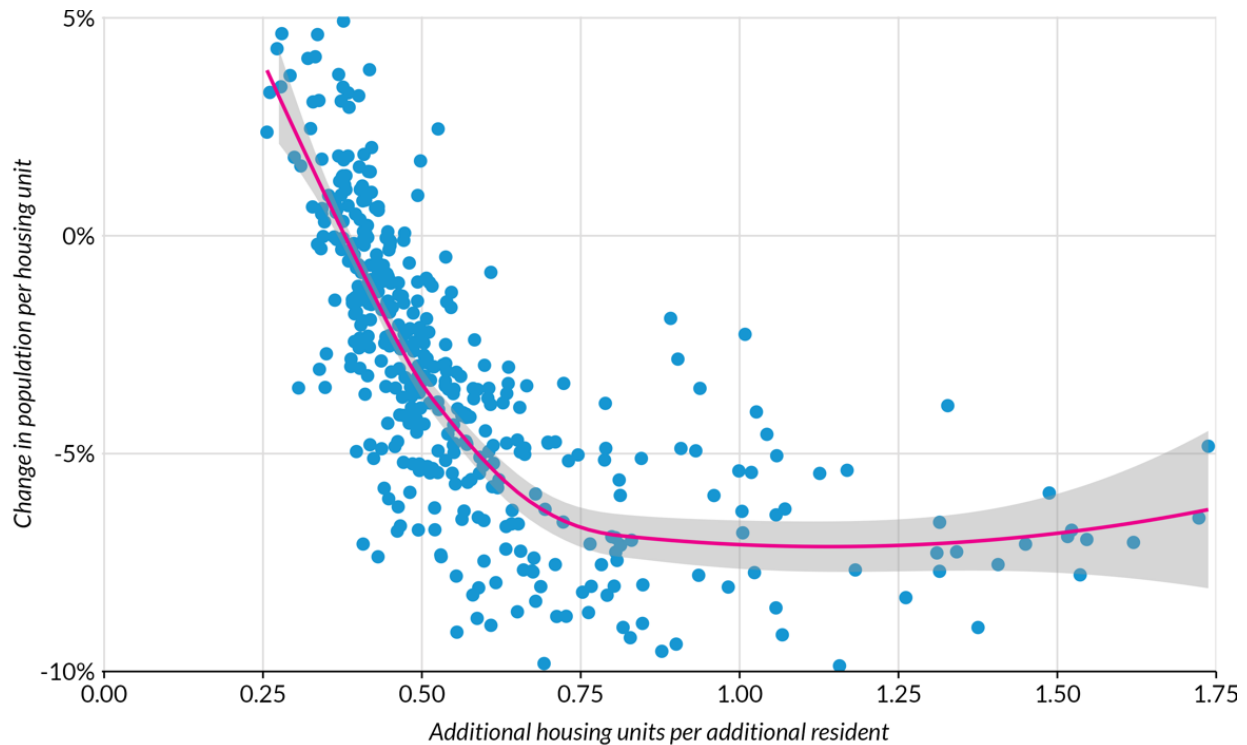
The problem with this approach is that household formation is endogenous to housing availability. I compared county-level Census data nationwide between 2000 and 2018–22, finding that the correlation between the percent change in units and households over that period was 97.2 percent. This indicates that housing supply grows to match the number of households in an area, and/or that the number of households grows to match the housing supply. McClure and Schwartz (2024) attempt to compensate for this issue by analyzing headship rates, meaning the

ratio of households formed to the population. They find that there is no correlation between these rates and the ratio of housing stock growth to household formation (I find the same in my examination of county-level data); they argue that this “suggest[s] that headship rates are not constrained by housing shortages.”

Yet, further examination of the data point to limitations of their conclusions. Consider in figure 1 a comparison at the county level between the number of housing units added per additional resident (meaning, the net increase in units divided by the net increase in residents) and the change in population per housing unit. This comparison shows that higher growth in housing per additional resident is strongly associated with less crowded housing units. Whereas counties at the 1st quintile in these data added about 0.4 units per additional resident and experienced about a 1 percent decline in population per housing unit, counties at the 4th quintile added about 0.73 units per additional resident and averaged about a 7 percent decline in population per unit.

Figure 1

Among large US counties, additional housing stock was associated with lower housing occupancy rates between 2000 and 2018-2022



Source: The author, based on US Census 2000 and American Community Survey 5-year 2018–22 population and housing estimates.

Notes: Includes data on US counties with at least 100,000 residents in 2000; showing central 95 percent of the distribution. Does not include data on counties that lost population during this time period. Loess best-fit line shown in pink.

I find that, when regressing at the county level, this relationship between additional housing and declines in population per unit was strong and statistically significant, even after controlling for county-level incomes, changes in income, racial demographics, and population densities (table 1). I also find that both a higher number of additional housing units per additional resident and more housing units per capita are associated with a higher number of households per capita (contradicting McClure and Schwartz’s metropolitan analysis).

Table 1

Additional housing units are associated with fewer people per housing unit and more households per capita, by county

	Population per housing unit, percent change 2000-22		Households per capita, percent change 2000-22	
	I	II	III	
Additional housing units per additional resident, 2000-22	-0.60 (0.29) *		0.52 (0.19) **	
Housing units per capita, percent change 2000-22		76.99 (3.35) ***		
Median household income, change 2000-22	6.98 (1.95) ***	1.18 (1.25)	-4.37 (1.94) *	
Median household income, 2000 (log)	1.24 (0.90)	1.92 (0.59) **	0.93 (0.95)	
Share population white, 2000	-0.35 (1.17)	0.57 (0.89)	0.75 (1.29)	
Population density, sq. miles, 2000 (log)	-0.22 (0.17)	-0.36 (0.14) **	-0.20 (0.18)	
Intercept	-14.72 (9.03)	-19.64 (6.16) **	-7.61 (9.67)	
N	456	456	456	
Adjusted R ²	0.09	0.63	0.05	

Source: The author, based on US Census 2000 and American Community Survey 5-year 2018-22 population and housing estimates.

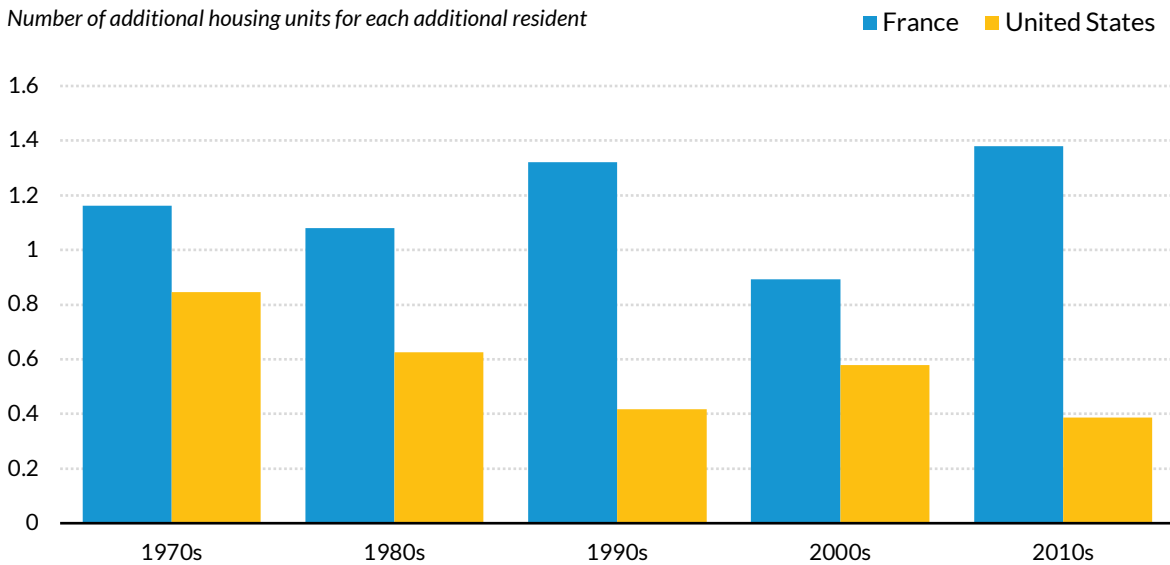
Notes: Robust standard errors in parentheses. Includes data on US counties with at least 100,000 residents in 2000. White population indicates non-Hispanic white; 2000 incomes have been adjusted for inflation. Does not include data on counties that lost population during this time period. *** p < 0.001; ** p < 0.01; * p < 0.05.

These findings suggest that growth in the housing stock is associated with more *comfortable* living standards—and even, perhaps, more households. In measuring the supply shortage, we should be evaluating why some counties experienced large declines in population per housing unit over the past two decades—whereas others experienced only minimal change or actually experienced an increase. Surely this is just as much a reflection of housing demand as growth in households which, as noted, is limited by the number of units available.

On this count, much of the field of housing studies in the United States could benefit mightily from international comparative analysis. Juxtaposing metropolitan areas or even counties across one nation only tells us so much about what is working. Consider France, which has featured a far higher rate of housing growth nationwide compared to population growth than the United States since the 1970s (figure 2), made possible to a substantial degree by public policies focused on housing production enforced at various governmental levels (Freemark 2021).

Figure 2

Housing construction has continued at a far faster rate in France than in the United States



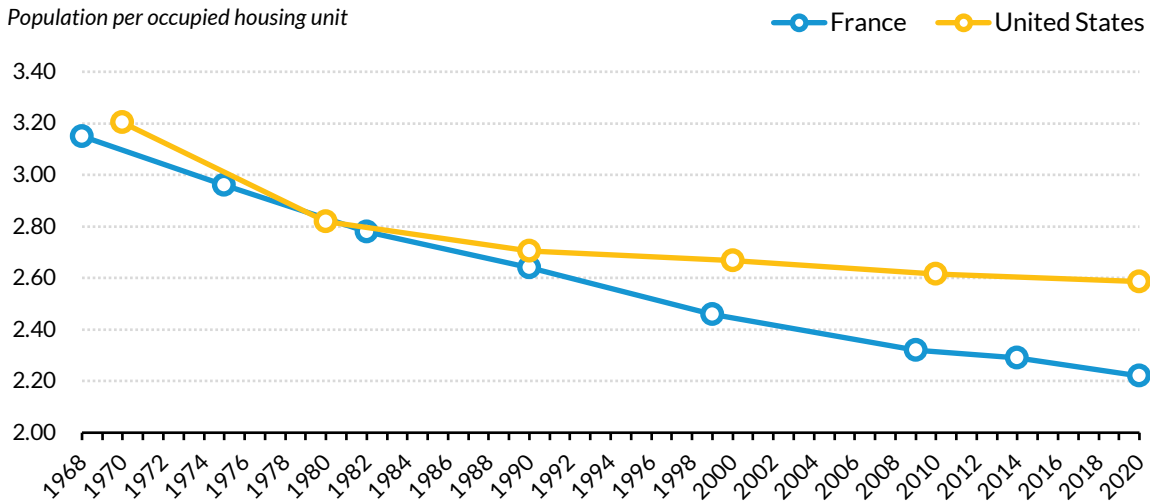
Source: The author, based on US Census decennial population and housing data, and Insee French Census data.

Notes: Metropolitan France only; United States data exclude territories. Because of French data availability, the decades noted in the X-axis are slightly different from those in the United States; 1970s = 1968-1982; 1980s = 1982-1990; 1990s = 1990-1999; 2000s = 1999-2009; 2010s = 2009-2020.

The rapid rate of housing growth in France has been associated with a remarkable change in the living patterns of households in that country. Until the late 1980s, France and the United States featured broadly similar housing unit occupancy rates, meaning the number of people living in each household (figure 3). Since 1990, however, France has experienced a 16 percent decline in population per housing unit—while the United States has seen only a 4 percent decline. The result is that the typical unit in France now has considerably fewer residents than that in the United States.

Figure 3

Occupancy per housing unit has declined much more rapidly in France than the United States since 1990



Source: The author, based on US Census decennial population and housing data, and Insee French Census data.
Notes: Metropolitan France only; United States data exclude territories.

It is true that these two countries feature different baseline housing conditions. In 2013, for example, the typical French housing unit provided only 435 square feet per person, compared to 700 square feet per person in the United States (Insee 2017; US Census 2024). This difference might be one explanation for the continued higher housing production in France. And these countries' demographic conditions vary, too. Notably, France's population has a higher median age thanks to its higher life expectancy; this could imply demand for more units per capita in France. Even so, there are other demographic comparisons that would suggest the opposite. For example, the United States features a considerably higher share of single-parent households than France does (Kramer 2019). This implies a need for fewer housing units per capita in France, since it means a larger share of parents who live together there than in the United States. Moreover, since 2009, France has featured a consistently higher birth rate than the United States—and has a similar share of population that is under 15 years old (World Bank 2024a; World Bank 2024b).

Given these interrelated issues, it is not obvious to me that the number of residents per housing unit is the single best indicator of a housing supply shortage; further international comparison is needed to solidify this argument. But it is clear that the variation in this measure I illustrated between counties and countries raises concerns about focalizing on household formation as the primary metric of concern. When given the opportunity through greater housing supply, people

choose to live in less crowded households. The fact that the United States has fallen so far behind a peer nation in addressing this fact speaks to a potential supply shortage.

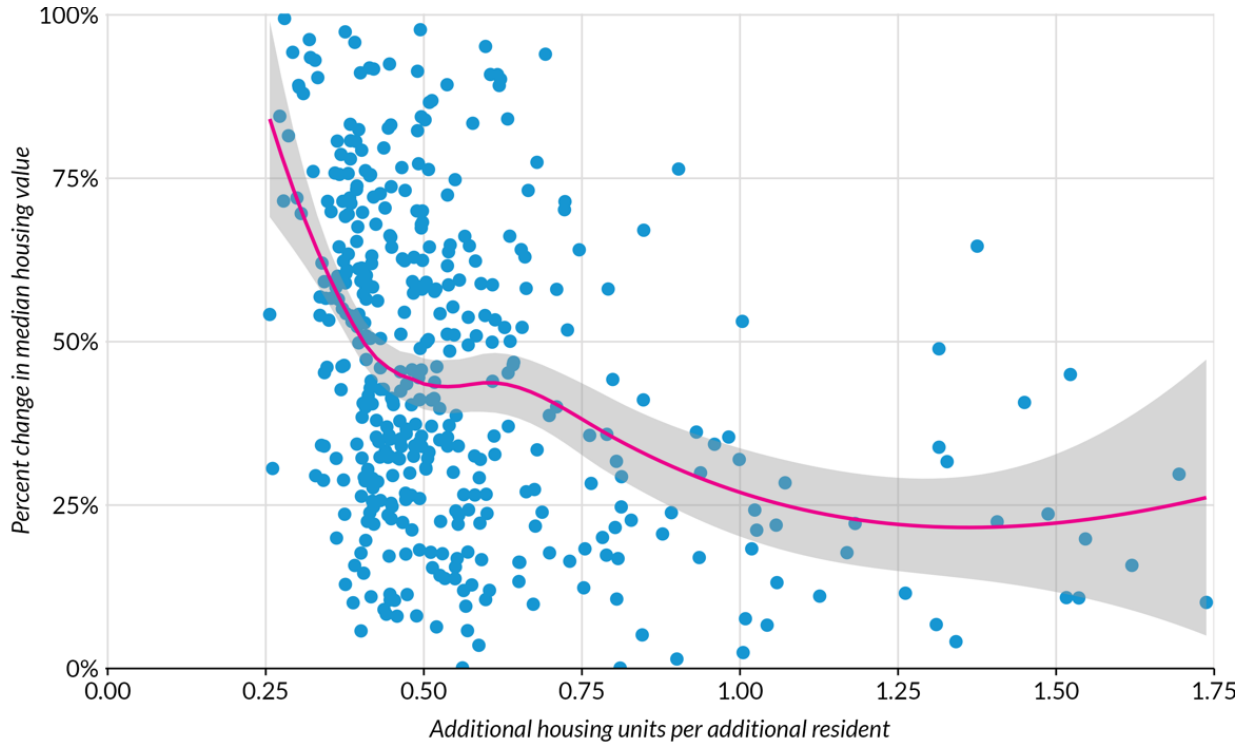
Housing Costs Are Related to Housing Supply

Next, I investigate the relationship between housing supply and costs. McClure and Schwartz (2024), to their credit, find that at the metropolitan level, “headship rates are correlated inversely with median gross rents and median value of owner-occupied homes.” Household formation is thus made more difficult when costs are high. Because they do not find a correlation between metropolitan housing growth and headship rates, they dismiss the possibility that those higher housing costs are, in turn, a reflection of inadequate supply. In their view, the ability to form a household is not constrained by housing shortages but rather by higher housing costs. (This phenomenon likely occurs at the sub-metropolitan level, as well, an issue to which I return below.)

But how did these higher housing costs come into being? There is a large and growing literature linking housing supply with home values and rents (e.g., Been et al. 2019; Gyourko 2009). It may be rather trite to point it out, but the rules of supply and demand apply to the housing market, too; fewer homes available per capita and per household are associated with higher rents and higher home values. We can visualize this phenomenon, too, by again examining trends at the county level (figure 4). Though there is certainly variation, in general a higher rate of additional housing units per additional resident over the past two decades was associated with lower increases in median housing costs.

Figure 4

On average, more housing units per additional resident are associated with lower increases in housing costs at the county level, though there is considerable variation at play



Source: The author, based on US Census 2000 and American Community Survey 5-year 2018–22 population and housing estimates.

Notes: Includes data on US counties with at least 100,000 residents in 2000; showing central 95 percent of the distribution. Does not include data on counties that lost population during this time period. Median housing value adjusted for inflation. Loess best-fit line shown in pink.

I further detail this link in table 2, where I run a series of regressions on changes in median home values and median rents at the county level between 2000 and 2018–22. These regressions control for change in number of households; underlying home values and rent levels; racial demographics; population densities; and incomes. They show a statistically significant negative association between additional housing units per additional resident and higher increases in home values and rents. In other words, the addition of more housing supply per capita is associated with lower growth in housing costs, as logic would suggest!

Table 2

Additional housing units per additional resident are associated with lower increases in housing cost by county, though other variables explain a higher share of the trend

	Median housing value, percent change 2000–22		Median gross rent, percent change 2000–22	
	I	II	III	IV
	Unscaled	Scaled	Unscaled	Scaled
Additional housing units per additional resident, 2000–22	-0.01 (0.00) *	-0.03 (0.01) *	-0.01 (0.00) ***	-0.04 (0.01) ***
Households, change 2000–22	0.17 (0.04) ***	1.52 (0.03) ***	0.03 (0.02)	0.06 (0.03)
Median housing value, 2000 (log)	-0.04 (0.04)	-0.06 (0.06)		
Median gross rent, 2000 (log)			-0.00 (0.03)	-0.00 (0.04)
Share population white, 2000	-0.23 (0.07) ***	-0.15 (0.04) ***	-0.13 (0.02) ***	-0.18 (0.04) ***
Share pop. white, change 2000–22	-0.70 (0.21) **	-0.14 (0.04) **	-0.35 (0.09) ***	-0.15 (0.04) ***
Population density, sq. miles, 2000 (log)	0.01 (0.01)	0.06 (0.05)	0.01 (0.00) *	0.09 (0.03) *
Median household income, change 2000–22	1.94 (0.08) ***	0.70 (0.03) ***	0.93 (0.05) ***	0.73 (0.04) ***
Intercept	0.79 (0.51)	-0.00 (0.03)	0.20 (0.16)	0.00 (0.03)
N	456	456	456	456
Adjusted R ²	0.60	0.60	0.66	0.66

Source: The author, based on US Census 2000 and American Community Survey 5-year 2018–22 population and housing estimates.

Notes: Robust standard errors in parentheses. Includes data on US counties with at least 100,000 residents in 2000. White population indicates non-Hispanic white; 2000 income, housing values, and rents have been adjusted for inflation. Additional housing units count only those that are occupied or for rent or sale (e.g., no seasonal units). Does not include data on counties that lost population during this time period. Variables chosen to minimize multicollinearity; higher population size and higher increases in educational achievement both also associated with higher housing costs. Scaled models (II and IV) standardize coefficients to center a variable around its mean and allow for comparison of the relative influence of different independent variables on the dependent variable (i.e., the larger the absolute value of coefficients, the greater its influence on the outcome; this is not the case for the unscaled models). *** p < 0.001; ** p < 0.01; * p < 0.05.

Even so, McClure and Schwartz’s insight that “affordability problems seem to be a function of mismatches between housing prices and incomes” is nonetheless not to be dismissed. The results in table 2 show that while growth in housing stock likely influences housing costs at the county level, those effects are nonetheless small (e.g., a doubling of housing production per new resident would be associated with only a quarter of a percentage point reduction in median rent), and dwarfed by other housing market conditions. At the county level, higher costs are most strongly associated with a higher growth in the number of households (for home values) and increases in resident incomes (for home values and rent). Higher housing costs may largely be a reflection of the fact that at least some people in a particular area have more income to pay for them; higher-income households may be bidding up the costs of housing because of their ability to pay for it.

These realities suggest that it would be simplistic to assume that increasing housing supply alone can counter the challenges of housing affordability faced by many households; other factors are clearly at play in influencing housing costs, especially at the neighborhood level (see, e.g.,

Anenberg and Kung 2020; Fingleton et al. 2019; Molloy et al. 2022). We cannot reject the possibility that adding housing supply in one area attracts more residents from other locations (or results in more existing residents staying in place); I already noted the direct correlation between increases in housing units and increases in households. This is not a bad thing—it allows more people to live in the places where they want to live—but it does dilute the effectiveness of adding housing supply as a mechanism to reduce housing costs. This reality may be particularly concerning for households with low incomes. Nonetheless, the fact remains that there is a link between housing supply and affordability—and one mechanism to reduce costs is to add more units.

The Geographically Disaggregated Nature of the Housing Market

Finally, I evaluate the appropriate geographies for examining the housing shortage. In describing the limitations of their metropolitan-level analysis, McClure and Schwartz (2024) acknowledge that “it would not be uncommon for the housing market of a central city to behave very differently from its suburbs.” And yet they premise their argument on the assumption that housing units in one part of a metropolitan area are equivalent to housing units elsewhere. They note, “housing units in each of these jurisdictions serve as substitutes even if market conditions differ markedly from city to city.” This therefore justifies their use of metropolitan areas as the geography at which to conduct their analysis.

It is quite a jump, however, from comparing household and housing characteristics across a metropolitan area to claiming that units across a region are substitutes. It is a jump that perhaps an economist might make in developing a model designed to reach equilibrium—built on assumptions of freedom of movement and freedom of entry that Tiebout (1956) would endorse.

Nonetheless, it is a jump that we should not take as scholars in the urban housing space. First, we must acknowledge that access to jobs and transportation are unevenly distributed. Neighborhoods nearer to the center of most regions are more accessible by public transportation than those on the edge. Since household costs do not start and end with the price of housing but rather extend on to transportation and other needs (Bieri and Dawkins 2016; Coulombel 2018), it is no surprise that people with limited or no car access—often but not always those with lower incomes—are more likely to want to live in areas with transit (Glaeser et al. 2008). The availability of a cheap housing unit at the edge of the region is relatively useless for people without a car (in the Moving to Opportunity experiment, for example, low-income families provided with vouchers to live in housing units in low-poverty neighborhoods were less likely to stay if they did not have

car access; see Blumenberg and Pierce 2017). Even with a car, living in an area with poor access to jobs is unappealing.

Second, housing is located in communities that have a truly enormous range of access to well-funded public services, like schools and parks, and other neighborhood attributes that are important to people, like stores and restaurants. This variation explains the broadly held scholarly view that ensuring people have access to these opportunities should be a key goal of US housing policy (e.g., Acolin and Wachter 2017). The reality is that these differences are, to a large degree, captured by housing prices, which of course reflect not just physical structures and land, but also those local amenities (Li et al. 2016).

Perhaps McClure and Schwartz believe they have accounted for this issue; if housing costs reflect access to transportation and public amenities, then their data show that people can just move elsewhere in the region to get housing they can afford. But does that prove there is no housing shortage? Certainly not, in my view. Peoples' desires—contra Tiebout—cannot be calibrated perfectly into a set of amenities offered by one community or another, particularly after accounting for income. People may desire a home in a neighborhood with a certain combination of transportation, amenities, and housing costs, and simply not be able to find it; residential submarkets are not equally accessible to all (Galster 2019). We know that high-home-value municipalities add fewer units per capita than their respective metropolitan areas (Freemark 2022). The fact that people could theoretically move somewhere else with lower housing costs does not mean that there is no shortage—it means there is a shortage in the places where they want to live.

Third, and impossible to dismiss in the US context, are the histories of racial and class segregation imposed by decades of exclusionary policies (Ford 1999). Metropolitan areas feature well-engrained differentiation between cities and neighborhoods, some of which has been reinforced over time by the mere fact of certain types of housing being made available in some places and not others. These patterns are themselves likely the product of Tieboutian choice: people who can afford to live in expensive single-family homes (notably, wealthier people who are less likely to be Black or Latino) enforce policies that prevent other people from living nearby, thus reinforcing patterns of segregation (Dawkins 2005) and unequal exposure to poor environmental and economic conditions (Freemark et al. 2020; Sadler and Highsmith 2016).

Indeed, subsidized, affordable housing in the United States is far more concentrated in a few cities than those units in comparable countries abroad (Freemark and Steil 2022). One explanation is likely that zoning policies in high-income suburban cities—and exclusive

neighborhoods of central cities—often exclude the construction of multifamily apartment buildings. A recent analysis I conducted, for example, showed that 87 percent of the subsidized affordable housing units in the Seattle region is located in the just 3 percent of land area where multi-family apartments can be built—and that 32 percent of the region’s residents live in tracts with no housing vouchers at all (Freemark 2023b). The result is that people with low incomes—who can afford these subsidized units—are more likely themselves to live in communities with higher concentrations of people of color and poorer access to well-funded public services. The disproportionate lack of available subsidized housing in certain communities is a form of housing shortage.

McClure and Schwartz do find that the average metropolitan area has inadequate housing for its extremely low-income renters, suggesting they do not necessarily disagree. Yet they dismiss concerns about housing availability for renters with higher incomes. If people made housing choices purely based on the availability of units at a certain cost, perhaps this would assuage concerns about the housing market for moderate- and middle-income renters and homeowners. Yet the number of cost-burdened renter households was far higher in 2021 than it was in 2001, even adjusted for population, and despite a similar national poverty rate (Joint Center for Housing Studies 2022). These renters are not stupid; they are choosing, if possible, to live in the communities that offer all of the characteristics they desire, not just stopping at cost. The fact that these are their choices either means our definition of affordability is wrong, or that we have a housing shortage, just not the type McClure and Schwartz describe.

Moreover, there are other indications that, due to sticky aspects of the housing market, the supply simply does not meet residents’ needs. Consider owner-occupied, three-or-more-bedroom homes. In 2022, adults 58 to 76 years old living in 1- or 2-person households with no children owned about 28 percent of these homes; adults 26 to 41 years old *with* children owned only 14 percent (Anderson and Bokahri 2024). Older Americans—with their larger savings accounts and benefiting from the fact that they bought cheaper homes decades ago—are thus more likely to be living in a type of home that accommodates *others’* needs.

What is a Housing Shortage?

My contention is that the approach McClure and Schwartz (2024) have taken to evaluating the US housing shortage is flawed. Its reliance on household formation as an indicator of housing demand fails to account for the reality that household growth is endogenous to housing availability. Its dismissal of the relationship between costs and growth in the housing stock is

challenged by other evidence. And its assumption that units are interchangeable across metropolitan areas is unrealistic.

I return to my question, then: What is a housing shortage? If it refers to a shortage of units *in the places where people want or need to be*, measuring it through household formation at the regional level is inadequate. Does it not make more sense to think of a housing shortage as a shortage of units that are affordable in those places where access to transportation is effective, where jobs are available within reasonable distance, and where public services are well-funded? Quantifying the dimensions of *that* housing supply need—and its potential shortage—from that rather more complicated perspective is too much for me to investigate in this response article.

Nevertheless, from the perspective of ensuring people have access to the homes they need in the neighborhoods they desire, it seems clear to me that a shortage persists. We should therefore question McClure and Schwartz's claim that the focus of federal housing policy should be on "helping households consume the housing that already exists, rather than adding to the already ample stock of housing." Federal policymakers—as well as those at state and local levels—should continue identifying ways to prioritize an adequate supply of housing for people of all incomes throughout metropolitan areas, particularly in communities with excellent amenities.

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