

The Housing Deficit and Affordability: Is a Solution Hiding in Plain Sight?

BY CRISTIAN DERITIS

The widespread increase in house prices over the past two years is symptomatic of a housing market where demand is outstripping supply by large margins. Ultra-low mortgage interest rates offset some of the increase in prices, keeping monthly mortgage payments affordable for many households. However, with the rapid increase in mortgage interest rates since the start of 2022 this is no longer the case, putting homeownership outside the reach of millions of would-be first-time homebuyers. Although the reduction in demand due to affordability will slow house price growth, demographics continue to provide a sizable tailwind as many members of the millennial generation are now in their prime years for starting families and buying homes. Consequently, rents on apartments and single-family homes have risen quickly, contributing further to the affordability challenges facing families with the bottom decile of households by income now spending more than 43% of their monthly incomes on housing expenses versus a 32% share for the top decile.¹

The solution is obvious: The U.S. needs more housing units. Housing policy solutions thus far have come up short, often focused on providing cheaper financing or subsidizing rental payments. Although such programs target the needs of particularly vulnerable populations, these demand-side programs do not address the fundamental supply-side issues related to the availability of buildable lots, materials and workers as well as the plethora of regulations that either delay or prevent the construction of an adequate number of housing units in the areas where they are needed the most.

Recognizing the bottlenecks and disparities created by regulations, an increasing number of states and local communities are rolling back exclusionary zoning restrictions that limit the number of units that may be built on a lot. Consistent with this approach, the Biden administration has sought to make the provision of transportation funding conditional on the removal of restrictive zoning practices, although critics are quick to point out that the impact of this initiative depends on how well it is implemented.

While these sticks and carrots are helpful and long overdue, even under the best circumstances it will take years before these changes significantly alter the supply of available housing. Local opposition from “not in my backyard” activists will continue to challenge new development, and builders are likely to face higher costs in adding units to existing properties relative to constructing on new tracts of land. Given these delays, many millennials may miss out on the opportunity to buy or rent a home in their 30s, leading to increased multigen-

¹ See Bureau of Labor Statistics' Consumer Expenditure Survey results for 2021. <https://www.bls.gov/cex>

erational and alternative housing arrangements. As a result, some households that may have otherwise been expected to form will be unable to do so given these external constraints.

Before resigning ourselves to a fate borne out of demographics and bureaucracy, detailed data on housing inventories suggest another solution may be possible. Specifically, incentives to move a portion of the more than 7 million existing housing units that are currently being held off the market back into active service could provide relief faster and at a lower cost than other proposals.

In the sections that follow, we take inventory of all the housing stock that currently exists in the U.S., including rental, owned and off-market properties. Next, we calculate the housing deficit based on current trend supply and demand for housing relative to our estimates for equilibrium vacancy rates. Finally, we estimate the cost of repairing vacant properties that are currently being held off the market to return them to active service. We conclude that tax and other incentives designed to stimulate revitalization of existing properties may be more effective, less expensive, and more expedient in helping to fill the housing deficit than programs focused solely on the construction of new properties or those that focus primarily on lowering financing costs for homebuyers and builders.

Decomposing the housing stock

The Census Bureau releases quarterly estimates of the components of the housing stock as part of the report on Residential Vacancies and Homeownership. Table 1 compares inventories from the most recent report for the second quarter of 2022 with the figures from the second quarter of 2021 as well as the fourth quarter of 2019 to control for wild swings in activity observed during the COVID-19 pandemic. Results for the second quarter of 2022 indicated that there were 143.3 million housing units in the U.S., an increase of 1.3 million from 2021 resulting from additions of new construction less losses in housing stock due to natural disasters such as wildfires and the demolition of aging or abandoned structures.

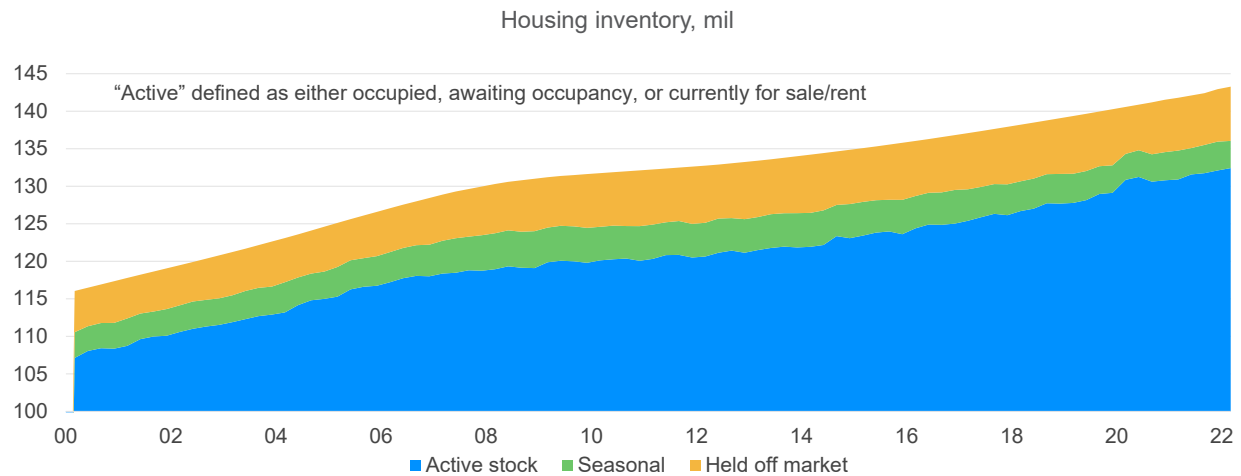
Of these 143.3 million units, 128 million were occupied by owners or renters (see Chart 1). An additional 3.6 million were classified as “seasonal” meaning that they were used only part of the year such as vacation homes. Approximately 3.4 million were listed for sale or rent while 1.1 million had already been rented or sold and were awaiting occupancy. The remaining 7.2 million units were classified as being “held off market” for a variety of reasons.

Based on these statistics, we classify the 132.4 million properties that are either occupied, for sale or rent, or already sold or rented as “active” stock leaving 10.9 million properties that are “inactive” (see Chart 2). It is this pool of properties—nearly 7.6% of the total housing stock—that presents a potential opportunity for addressing the acute need for more year-round permanent housing.

A more meaningful vacancy rate

To get a sense of the relative tightness of the housing market over time, analysts might define an overall vacancy rate directly from the census-provided data as the number of units classified as vacant (including seasonal homes and properties being voluntarily held off the market) divided by the total number of housing units. This produces a vacancy rate of 10.7% as of the second quarter of 2022, down from 11.5% at the end of 2019 and a peak rate of 14.6% in the first quarter of 2009 (see Chart 3).

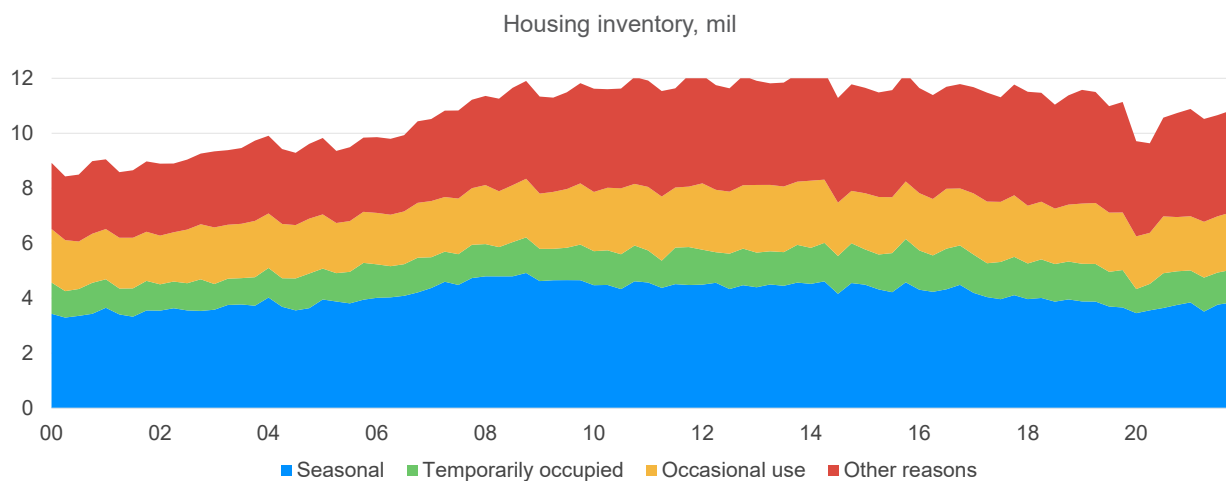
Chart 1: Active Housing Stock Lower Than It Appears



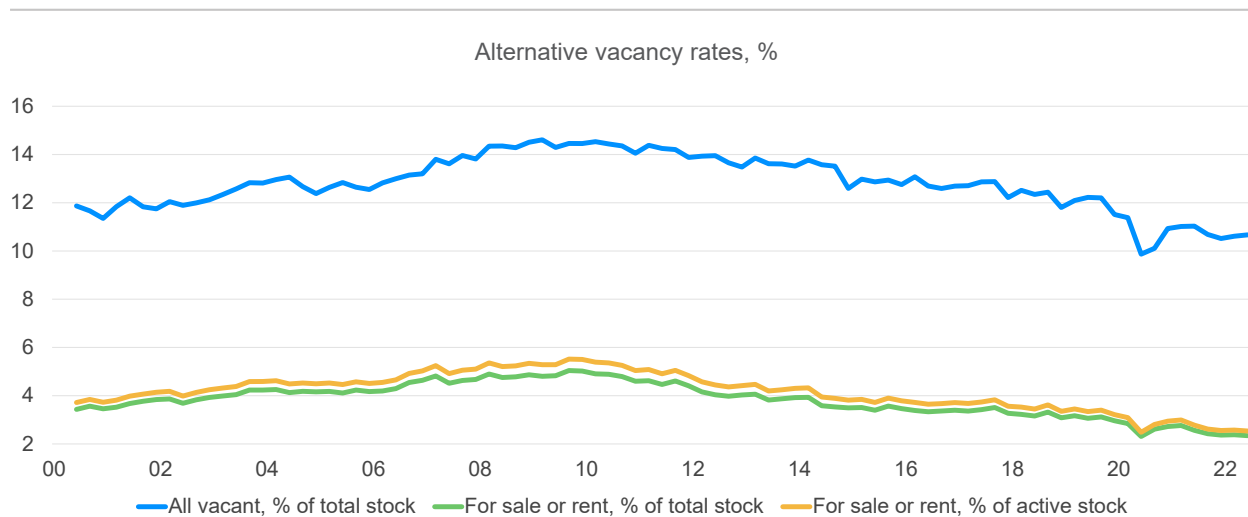
Sources: Census Bureau, Moody's Analytics

Though simple to construct, this vacancy rate may be misleading from the standpoint of assessing the tightness of the housing market as it includes properties that are not available for occupancy. Given this observation, one refinement we can make is to consider only those properties that are actively listed for sale or rent in the numerator (green line in Chart 3). We can improve this measure further by defining the denominator as the active stock of occupied and available-to-be occupied properties (excluding seasonal and off-market homes). Using this definition, the "active vacancy rate" was 2.6% as of the second quarter of 2022, down from 3.4% in the fourth quarter of 2019 and a peak of 5.5% in the third quarter of 2009 (orange line in Chart 3).

Chart 2: 11 Million Vacant Housing Units Not Available for Sale or Rent



Sources: Census Bureau, Moody's Analytics

Chart 3: “Active” Vacancy Rate Much Lower Than Top Line

Sources: Census Bureau, Moody's Analytics

Based on this definition we can better understand just how tight the housing market is with only a small share of properties available for sale or rent at any given time compared with the broader 10.7% vacancy rate. With little spare capacity, it is easy to appreciate how sensitive house prices and rents can be to small movements in either supply or demand within a given market.

Defining equilibrium

Given our definition of the active vacancy rate, how should we define equilibrium? A simple or naïve approach would be to define it as the long-term average under the assumption that the series is stationary such that movements above or below the average are temporary in nature. Based on this definition, we find that the average active vacancy rate from the second quarter of 2000 to the second quarter of 2022 was 4.2%. Though reasonable, this approach may be biased by the extreme movements in construction and vacancy rates during the late-2000s housing boom and bust.

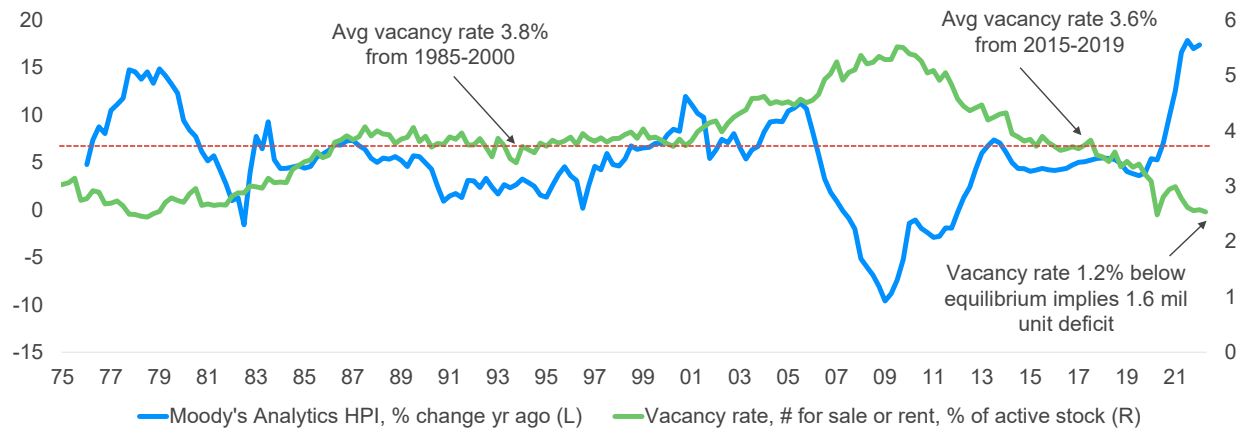
In addition, the long-run average ignores innovations that have made the housing market more efficient over time. For example, the advent of online listing services has increased the pool of potential buyers enormously relative to the days of newspaper listings and word of mouth advertising. The odds of sellers and buyers matching are much greater today thereby reducing the time properties stay on the market along with the need for excess inventory and elevated vacancy rates. Digitization has further reduced transactions costs contributing to less time that properties are on the market and unoccupied.

Rather than taking the simple average of the active vacancy rate over time, we can leverage house price data to identify time periods when the housing market has been at equilibrium. Specifically, we find that average annual house price growth from 2015 to 2019 was stable at 4.6%, suggesting that supply and demand of homes were relatively balanced during this period. The average vacancy rate over this time was 3.6%, which we posit is a reasonable estimate of the current equilibrium rate (see Chart 4). House price growth was relatively stable at 4.6% per year from 1985-2000 as well with a corresponding active vacancy rate of 3.8%.

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To refine our analysis further, we estimated a linear regression model of lagged vacancy rates on house prices under the assumption that a decline in available housing will lead to an increase in house prices (and vice versa):

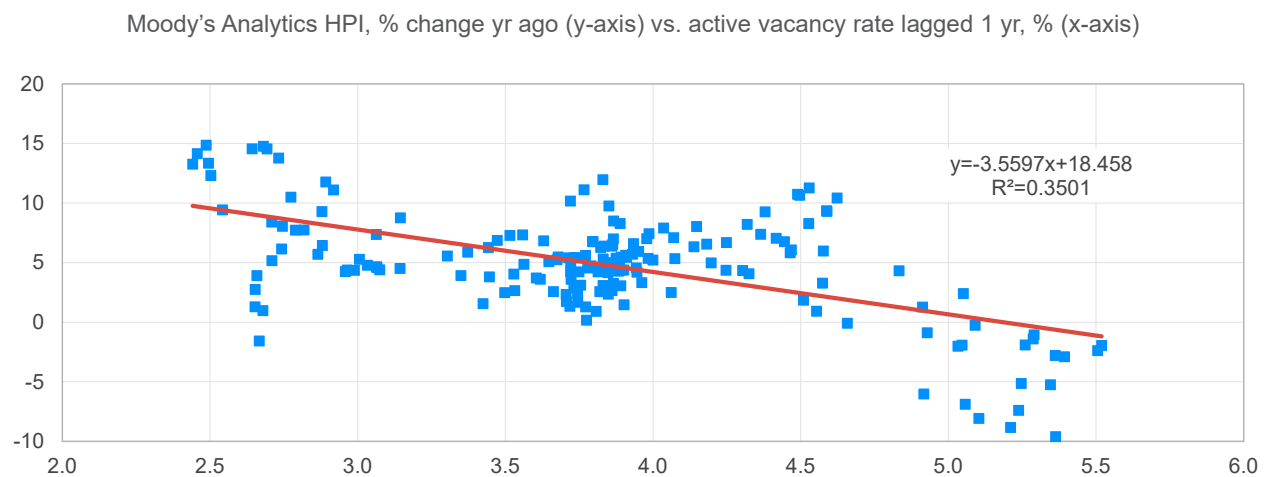
Chart 4: 1.6 Mil Housing Deficit Based on Estimated Equilibrium



Sources: Census Bureau, Moody's Analytics

As shown in Chart 5, we find a strong negative relationship ($= -3.56$) between vacancy rates and subsequent house price growth. Assuming a long-run value of 5% nominal annual house price growth implies that the equilibrium active vacancy rate should be around 3.7%, consistent with our previous observations.

Chart 5: Lagged Vacancy Rate and House Prices Are Correlated



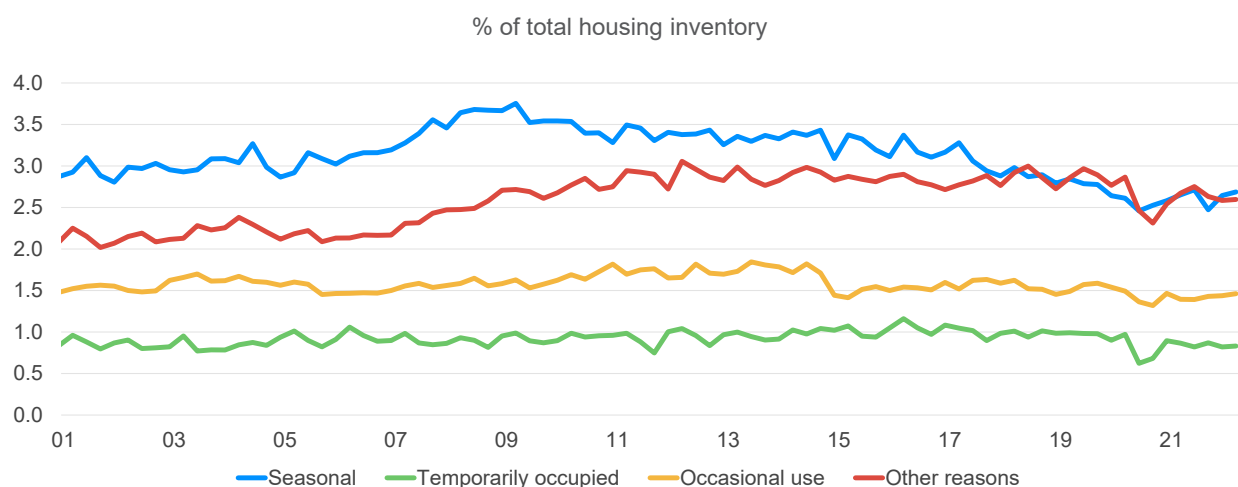
Sources: Census Bureau, Moody's Analytics

Applying the 1.2% difference between the estimated equilibrium (3.7%) and current vacancy rates (2.5%) to the level of the active housing stock (132.4 million), suggests a current housing deficit of close to 1.6 million units.

Filling the gap

Given a target active vacancy rate of 3.7%, we return our attention to the 10.9 million properties identified as inactive, representing 7.6% of the total housing stock. Of these, we note that the seasonal share has been declining steadily after peaking at 3.8% in 2009 (see Chart 6). In the five years leading up to the pandemic, approximately 122,000 seasonal homes per year were transferred to “active” or held off market status (see Table 1). Given the recent runup in house prices and a projected slowing in the economy, we may reasonably assume that at most an additional 120,000 will move to year-round occupancy within the next few years as some owners will look to downsize or cash out their capital gains as house price growth slows.

Chart 6: 5.1% of Non-Seasonal Housing Stock Being Held Off the Market



Sources: Census Bureau, Moody's Analytics

A more promising source of additional housing supply may be forthcoming from the 7.2 million units currently classified as being held off market. As of the second quarter there were 1.3 million units that were temporarily occupied by owners who usually reside elsewhere. This category experienced a sharp decline and rebound during the pandemic as owners temporarily moved out of their primary residences and into these off-market residences driven by the desire for more space and the possibility of remote work. As individuals move back into their primary residences, some of these temporary properties may be expected to re-enter active inventory as either home sales or rentals. However, given that the category is already near its pre-pandemic level, we conservatively assume that no more than 10,000 of these properties are likely to shift to active use in the near term.

Similarly, some of the 2.3 million properties currently identified as being used “occasionally” would be expected to transition to active status as pandemic migratory patterns settle and as owners look to capitalize on

Table 1: Housing Stock Inventory

Units, ths, unless otherwise stated

Category	2019Q4	% of total	2021Q2	% of total	2022Q2	% of total	Change from 22Q2-21Q2	Avg annual change 15-19	Proposed % of total	Proposed #	Difference from 2022Q2
All housing units	139,961	100.0	141,928	100.0	143,276	100.0	1,348	1,038	100.0	143,276	0
Occupied	123,848	88.5	126,271	89.0	127,990	89.3	1,719	1,278	89.3	127,990	0
Owner	80,615	57.6	82,576	58.2	84,214	58.8	1,638	848	58.8	84,214	0
Renter	43,233	30.9	43,695	30.8	43,776	30.6	81	430	30.6	43,776	0
Vacant	16,113	11.5	15,658	11.0	15,286	10.7	-372	-240	10.7	15,286	0
Seasonal	3,698	2.6	3,851	2.7	3,622	2.5	-229	-122	2.4	3,502	-120
Year-round	12,415	8.9	11,806	8.3	11,664	8.1	-142	-118	8.1	11,664	0
For rent	3,000	2.1	2,920	2.1	2,643	1.8	-277	-50	2.2	3,154	511
For sale only	1,145	0.8	722	0.5	714	0.5	-8	-68	1.0	1,433	719
Rented or sold	980	0.7	1,118	0.8	1,077	0.8	-41	4	0.8	1,077	0
Held off market	7,289	5.2	7,047	5.0	7,230	5.0	183	-4	4.3	6,120	-1,110
For occasional use	2,155	1.5	1,976	1.4	2,270	1.6	294	-18	1.5	2,170	-100
Temporarily occupied	1,261	0.9	1,165	0.8	1,250	0.9	85	-4	0.9	1,240	-10
Other	3,873	2.8	3,906	2.8	3,711	2.6	-195	18	1.9	2,711	-1,000
Active stock	128,973	92.1	131,031	92.3	132,424	92.4	1,393	1,164	93.3	133,654	1,230
Inactive stock	10,988	7.9	10,897	7.7	10,852	7.6	-45	-126	6.7	9,622	-1,230
Active vacant	4,145	3.3	3,642	2.9	3,357	2.6	-285	-118	3.2	4,587	1,230
Active vacancy rate	3.21		2.78		2.54		-0.24	3.61		3.43	0.90
Equilibrium vacancy rate based on regression					3.75						
Difference from 2022Q2					1.21						
Estimated housing deficit					1,609						

Sources: Census Bureau, Moody's Analytics

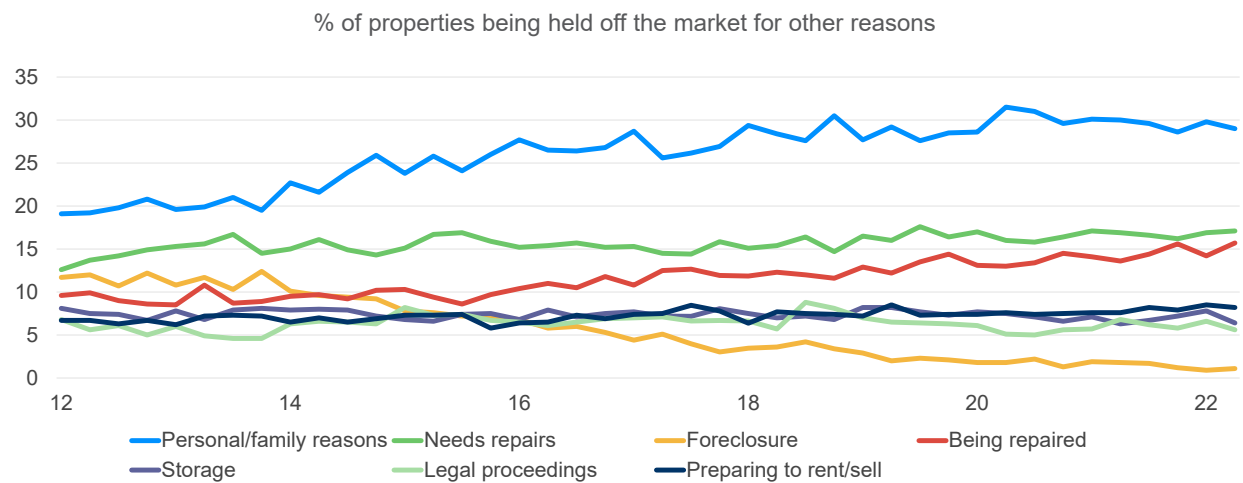
house price gains either through sales or rentals. The long-term share of these properties has been relatively flat and stable over the previous 20 years but rose during the pandemic. Returning the share close to its pre-pandemic trend would result in approximately 100,000 properties moving into active use.

The mysterious others

The greatest opportunity for adding substantially to housing supply in the near term may come from the 3.7 million properties that are currently classified as being held off the market for “other” reasons including legal disputes or the need to make repairs. Fortunately, we do not need to speculate on the reasons as the Census Bureau provides a detailed breakout of the multiple reasons that homeowners give for holding their properties off market (see Chart 7).

The single most common motive given is “personal and family reasons” with nearly a 30% share of all responses. This may come as little surprise given anecdotes of properties lying dormant because of disputes related to divorces or inheritances or as families fail to come to agreement on how best to manage their common property. The 10-percentage point increase in this category over the last 10 years may be related to the aging of the population as families hang on to properties for sentimental reasons or stress over how to manage the estates of sick or deceased relatives. Given projections for higher death rates in the years ahead, governments and communities will need to be proactive in assisting with this decision-making and conflict

Chart 7: 30% of Off-Market Either Need Repairs or Are Being Repaired



Sources: Census Bureau, Moody's Analytics

resolution. Otherwise, they run the risk of having to deal with a growing number of vacant properties and the negative externalities they bring, including higher maintenance costs and lower tax revenues.

Although personal and family situations can be complex, the dominance of this category also presents an opportunity for local communities to assist property holders by offering mediation, legal and other services in exchange for adding to the available housing stock. Financial assistance or tax incentives may help break through the logjam to the extent that conflicts and indecision may be preventing millions of homes from actively returning to the housing market.

The repair and preparation of houses prior to moving them back to active status accounts for more than 40% of the reasons given for holding properties off market. Therefore, this group of homes presents an even larger opportunity for communities and governments to provide financial assistance in the near term. Offering tax credit to homeowners whose properties have been vacant for several years could provide a strong incentive for returning upward of an additional 1 million existing homes to active use at a fraction of the time and cost of building a new home. Assuming average repairs of \$75,000 per unit and an average tax rate of 30%, such a program would cost approximately \$25 billion and would go a long way toward reducing the housing deficit. Moreover, assuming the property value of homes increases substantially once they are repaired, much of the cost of these programs would be recouped over time through the payment of higher taxes as well as the spill-over effects of additional economic activity.

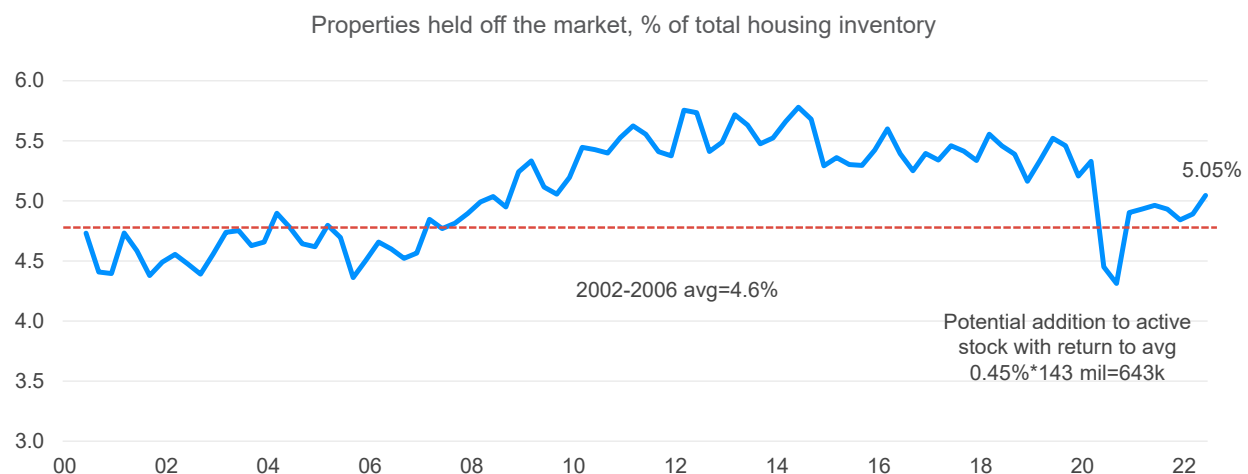
Other opportunities may arise from the remaining reasons that homeowners give for holding their properties off market such as storage, but these are relatively small and may be more idiosyncratic in nature. Nonetheless, given the size of the supply-demand imbalance even marginal increases to the active housing stock can have a material impact on house prices and affordability.

In Table 1, we summarize our estimates for increasing the active housing stock given pre-pandemic trends and our proposal to provide tax credits to homeowners with long-standing vacant homes who repair and either sell or rent out their properties. By our estimates, an additional 1.2 million properties could be made available for year-round occupancy over a five-year period through these programs and the incentives offered by the elevated house price environment.

Parting thoughts

Although the challenges of housing availability and affordability seem daunting, the solutions may not be as far out of reach as they appear. While the efficacy of our tax credit plan may be viewed as ambitious, simply returning the share of properties currently being held off market back to its pre-housing boom level could increase the active housing stock by nearly 643,000 units, or 40% of the estimated housing deficit (see Chart 8).

Chart 8: Reactivating Properties Could Help Fill the Housing Gap



Sources: Census Bureau, Moody's Analytics

While proposals to build new housing developments can often take years to clear regulatory hurdles and NIMBY opposition, efforts to reduce blight and improve the quality of existing housing units typically receive bipartisan support. In addition to increasing the quantity of homes available, renewing older housing stock with improved insulation and energy-efficient HVAC systems provided for under the Inflation Reduction Act could further reduce energy consumption in the long run appealing to the desires of progressive voters seeking to lower carbon emissions as well as conservatives seeking to lower energy costs and achieve energy independence.

Given how commonsensical our proposal is, critics may rightly question why markets have not already self-corrected. Why are government incentives needed at all? One reason why so many homes have remained vacant for so long is that they are in blighted urban neighborhoods or remote rural locations. The return on investment from repairing a single home located in a sea of blight is often insufficient for homeowners and

investors given a lack of neighborhood-level amenities. That is, the expected increase in rent or house price is insufficient to cover the cost of repairs.

However, a widespread effort to repair and rehabilitate multiple homes in a blighted neighborhood can produce sufficient externalities that allow property values to rise. With broader redevelopment, an entire area may become attractive to homebuyers and renters thereby justifying investments in improving the quality of the housing stock. Tax subsidies are designed to offset the cost of investment in order to fill the return-on-investment gap and effectively coordinate behavior among multiple property owners within a neighborhood.

Rural areas have faced similar challenges in terms of the risk-reward tradeoff of repairing dilapidated housing units. Given the size of the supply-demand imbalance today and the increased acceptability of remote work, homebuyers are increasingly willing to move to exurban and rural areas in search of more affordable housing. Here too, targeted tax incentives can bridge the return-on-investment gap for existing property owners. While governments do forgo tax revenue in the short term when granting tax credits, longer-term revenues will increase as properties are returned to productive and more valuable use.

Combined with a slowing but steady pace of construction of single-family, multifamily and manufactured homes, the entire housing deficit could be closed within a few years given a set of public policies and incentives that favors repurposing existing construction. Not only would the cost of this effort be lower than many of the proposals put forward by addressing supply-side rather than demand-side factors, but it would also lead to better outcomes given that many inactive properties are in neighborhoods located close to city centers and job opportunities.

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