US Housing Supply: A Growing Deficit

FHFA Fall Summit

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Summary

- Housing inventory at historical lows
- Housing shortage of 3.8 million units as of 2020
- Range of estimates of housing shortage: vary from housing market being 20% overbuilt to 40% underbuilt
- Entry level supply has been falling for decades and putting pressure on home prices
New Housing Supply Remains at Recession Levels

U.S. Annual Housing Completions and Manufactured Housing Shipments (1,000s)

Source: U.S. Census Bureau and Department of Housing and Urban Development, Institute for Building Technology & Safety
Inventory of Unsold Homes at Historical Lows - Even With the Modest Improvement in Recent Months, Inventory Not Enough for Renters Looking to Buy

Number of Homes Available for Sale

Number of renter households per homes available for sale

Source: National Association of Realtors (NAR); HVS, U.S. Census Bureau
While SF Rental Inventory is Improving, Available Rental Inventory is Also Low, Which Has Led to Rapid Increases in SF Rent Growth

Single-Family Rental Inventory (Supply)

Source: CoreLogic
Before the Coronavirus Pandemic Hit, the US Was Facing a Massive Housing Shortfall

<table>
<thead>
<tr>
<th></th>
<th>Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Households</td>
<td>121.2</td>
</tr>
<tr>
<td>Target Households</td>
<td>122.5</td>
</tr>
<tr>
<td>Current Housing Stock</td>
<td>138.3</td>
</tr>
<tr>
<td>Target Housing Stock</td>
<td>140.8</td>
</tr>
<tr>
<td>Housing stock target minus</td>
<td></td>
</tr>
<tr>
<td>current housing stock</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Freddie Mac Economic and Housing Research analysis of U.S. Census Bureau’s Current Population Survey/Housing Vacancy Survey
Accounts for historical vacancy rates, net migration between states, and pent-up housing demand
How Did We Arrive At This Shortage Estimate?

1. **Number of Current Households - CPS**

2. **Target Households:** To obtain the target households, we need a target headship rate:

   \[ hh^* = \sum_{i=15}^{65^+} pop_i \times hr_i^* \]

   where \( i \) = 5-year population age groups from 15-19 to 65+

   \( hr_i^* \) - target headship rate

   \( hh^* \) - target households

   a. Obtain the headship rate by age bucket.

   b. Adjust headship rate based on factors identified as affecting household formation (Housing Costs, Income, Employment, Marriage and Children, Race and Ethnicity). Run Oaxaca Blinder decomposition to estimate the contribution of each of the factor to the headship rate. Based on the contribution of the factors, we add back factors related to housing costs based on the assumption that housing costs become more favorable.

   \[ hr_{bi}^* = hr_{(i,2020)} + \alpha_{(housing\ cost, i)} \]

   c. To convert from CPS to HVS data, we apply a multiplier based on the ratio of the CPS and HVS households.
3. **Vacancy Rate:** We use the latest available vacancy rate.

4. **Target Vacancy Rate:** The target vacancy rate is at 13%. It is estimated to ensure that there is a well-functioning housing market, which requires some vacant properties for sale and for rent.

5. **Housing Stock:** We use the latest available housing stock estimate.

6. **Target Housing Stock:** Based on the target households and the target vacancy rate of 13%, we estimate the target housing stock \( k^* \) as

\[
k^* = \frac{hh^*}{1 - v^*}
\]

Where \( hh^* \) is target households and \( v^* \) is the target vacancy rate. Difference between \( k^* \) and \( k \) would give us the shortage.
## Housing Shortage Worsened During the Pandemic – 3.8 million Housing Units Needed to Match Rising Demand

<table>
<thead>
<tr>
<th>Housing Stock Estimate</th>
<th>2018</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual</td>
<td>Target</td>
</tr>
<tr>
<td>(1) Households (HVS, Millions)</td>
<td>121.2</td>
<td>122.5</td>
</tr>
<tr>
<td>(2) Vacant Units (HVS, Millions)</td>
<td>17.0</td>
<td>18.3</td>
</tr>
<tr>
<td>(1)+(2) Housing Stock (HVS, Millions)</td>
<td>138.3</td>
<td>140.8</td>
</tr>
</tbody>
</table>

**Other Housing Shortage Estimates:**

<table>
<thead>
<tr>
<th>Source</th>
<th>Housing Shortage (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAR</td>
<td>5.5</td>
</tr>
<tr>
<td>NLIHC (Affordable Homes)</td>
<td>6.8</td>
</tr>
<tr>
<td>Zelman</td>
<td>“20% overbuilt”</td>
</tr>
</tbody>
</table>

Source: Freddie Mac Economic and Housing Research analysis based on U.S. Census Bureau’s Current Population Survey/Housing Vacancy Survey data.

Note: Totals may not add up due to rounding.
Decline in Entry Level Supply
Entry-Level Supply Has Been Declining for Decades

**Percent** of SF Completions Below 1,400 Square Feet

**Number** of SF Completions Below 1,400 Square Feet (in Ths)

Source: Census
The Decline in Entry-Level Supply Began in the 1950s…

Share of SF Construction that is 1,400 Square Feet or Less

Source: Census and CoreLogic
…and the Drop is Occurring Across All Large States…

Entry-Level Share of New Home Sales

Source: CoreLogic
…and the Entry Level Share is Decreasing in Rural and Fast-Growing States

Entry Level Home Share for **Rural** States

Entry Level Home Share for **Fast Growing** States

Source: CoreLogic
Entry Level Supply Share Remains Very Low Through September 2021

**Percent** of New Sales Under 1,400 Square Feet

**Number** of New Sales Under 1,400 Square Feet

Source and Note: CoreLogic MLS data for 79 selected markets.
The Decline In Home Size Chronicled in the Press is Concentrated in Very Large Homes

10th Percentile Square Footage of New Sales

50th Percentile Square Footage of New Sales

90th Percentile Square Footage of New Sales

Source and Note: CoreLogic MLS data for 79 selected markets.
While Most Attention is Paid to Interior Space, Lot Size Has Seen a Dramatic Drop Since the Early 1990s

Source: CoreLogic