Tale of Two Markets: Single-Family vs. Multifamily Construction

Housing Finance Policy Center Data Talk
July 13, 2016
Speakers: Paul Emrath, Greg Willett, and Jamie Woodwell
Tale of Two Markets

A. Single-Family Construction

*Urban Institute Data Talk Series*

*July 13, 2016*

Paul Emrath

Vice President of Survey and Housing Policy Research

National Association of Home Builders
Outline

• Housing starts / NAHB’s latest forecast
• Supply constraints / costs inhibiting single-family production
• Role of government regulation
• Supply vs. demand for housing in different price ranges
Total Housing Starts Since World War II
(in thousands)

Annual Starts

Worst Pre-2008 Recession

National Association of Home Builders
Single-Family Housing Starts
Rising, but still well below normal

Thousands of units, SAAR

- 2000-2003: 1,343,000 “Normal”
- 2013: 620,000
- 2014: 647,000 (4%)
- 2015: 713,000 (10%)
- 2016: 794,000 (11%)
- 2017: 916,000 (15%)
- 2018: 1,042,000 (14%)

Trough to Current:
- Mar 09 = 353,000
- May 16 = 764,000 (+116%)

2016Q1: 59% of “Normal”
2018Q4: 81% of “Normal”
Multifamily Housing Starts
Back to normal

Thousands of units, SAAR

Avg=344,000

76% fall

Trough to Current:
4th Q 09 = 82,000
1st Q 16 = 361,000
+340%

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg</th>
<th>“Normal”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995-2003</td>
<td>331,000</td>
<td>“Normal”</td>
</tr>
<tr>
<td>2013</td>
<td>308,000</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>355,000</td>
<td>15%</td>
</tr>
<tr>
<td>2015</td>
<td>395,000</td>
<td>12%</td>
</tr>
<tr>
<td>2016</td>
<td>376,000</td>
<td>-5%</td>
</tr>
<tr>
<td>2017</td>
<td>383,000</td>
<td>2%</td>
</tr>
<tr>
<td>2018</td>
<td>368,000</td>
<td>-4%</td>
</tr>
</tbody>
</table>

2016Q1: 107% of “Normal”
2018Q4: 110% of “Normal”
Why Hasn’t Single-family Production Recovered Further and Faster?

Supply bottlenecks:
Availability and price of lots / labor
Especially in key locations / with key skills

Regulation:
Difficult to get development approved in some jurisdictions
Fees, restrictions, etc. drive up costs
Share of Builders Reporting Labor Shortages Highest Since 2000
Economy was very strong consistently in the late 1990s
Current shortage especially severe relative to housing starts

HOUSING STARTS (AREA) AND LABOR SHORTAGE
AVERAGE PERCENTAGE FOR 9 TRADES (BARS)

Starts (000s)


Shortage

0% 10% 20% 30% 40% 50% 60%
Recent Shortages Worse for Subcontractors than for Labor Directly Employed by Single-family Builders

Builders Reporting Serious to Some Shortage:
Average Percentage for 9 trades

- Labor
- Subcontractors

National Association of Home Builders
Share of Builders Reporting Lot Shortages: Higher than Ever
Lot Prices Also Higher than Ever
(even though new-home lots are smaller than ever)

Median Lot Value
*Single-Family Spec Homes Started*

NAHB tabulation of data from the Survey of Construction, U.S. Census Bureau and HUD
More Builders Report Labor/Subcontractor Shortages

BY PAUL EMRATH on JUNE 28, 2016 • (2)

A survey of single-family builders conducted by NAHB in June 2016 shows that shortages of

http://eyeonhousing.org/2016/05/shortage-of-lots-now-worse-than-ever/

Shortage of Lots Now Worse Than Ever

BY PAUL EMRATH on MAY 23, 2016 • (4)

NAHB’s measure of lot shortages hit a new record in May. In answer to special questions on
special studies, may 2, 2016
by paul emrath, ph.d.

regulatory costs and housing policy

national association of home builders

new nahb estimates based on the latest data show that, on average, regulations imposed by government at all levels account for 24.3 percent of the final price of a new single family home built for sale. three-fifths of this—14.6 percent of the final house price—is due to a higher price for a finished lot resulting from regulations imposed during the lot’s development. the other two-fifths—9.7 percent of the house price—is the result of costs incurred by the builder after purchasing the finished lot (figure 1).

figure 1. regulatory costs as a share of home price
Government Regulation in the Price of a New Home

Purpose:
Not to argue that all regulation is bad, but to show how much we already have; question if regulators are adequately considering costs

Challenges:
Have to go to builders; only they have the information
But their accounting systems aren’t designed to capture regulatory costs
Special Questions on the March 2016 Survey for the NAHB/Wells Fargo Housing Market Index (HMI)

4. Does your company have substantial experience in acquiring raw land and developing lots?
   □ Yes □ No

If “Yes” in question 4, please answer 5a through 5f. If “No” in question 4, please skip to 6a.

5a. For a typical lot, how much does it cost to apply for zoning/subdivision approval as a percent of finished lot cost? (Include costs of fiscal or traffic impact or other studies, and any review or other fees that must be paid by time of application. Please enter “0” if application costs are Zero percent).
   ______ % of finished lot cost

5b. On average, how long does it take between the time you apply for zoning/subdivision approval and the time you obtain preliminary approval to start site work?
   ______ months

5c. In the typical case, what is the value of any land that must be dedicated to the local government or otherwise left unbuilt (for parks, open green space, schools, etc.) as a percent of finished lot cost? (Please enter “0” if dedicating land is required infrequently).
   ______ % of finished lot cost

5d. After obtaining approval, but before excavation/foundation work begins, how much does it cost to comply with regulations as a percent of finished lot cost? (Include costs of environmental mitigation, and hook-up or impact or other fees. Please enter “0” if cost of complying with these regulations is Zero percent).
   ______ % of finished lot cost

5e. How much extra time does complying with regulations add to the development process? (Please enter “0” if there is no additional time added)
HMI Survey Results Need to Be Combined With Other Data

- 1.0 point charged for all land acquisition, development, and construction (AD&C) loans, based on results from a Quarterly Finance Survey (QFS) that NAHB was conducting in the early 2000s.

- A 7.65 percent interest rate on all AD&C loans. The QFS indicates that rates are typically set one point above prime, and 6.65 percent is NAHB’s estimate of the prime rate that would prevail in the long run under neutral Federal Reserve policy.

- A 9.6 percent gross profit rate for builders and developers, based on the average rate on NAHB Construction Cost surveys conducted between 2002 and 2015. In the long run, without a competitive return on investment, builders and developers will leave the industry, lots will not be developed, and homes will not be built.

- A broker’s fee of 2.9 percent, based on the “nonconstruction” cost factor the Census Bureau applies to single-family homes built for sale (http://www.census.gov/const/C30/methodology.pdf). In housing markets, broker’s fees are typically set as a fraction of the home’s purchase price.

- Raw land that accounts for 10.6 percent of the price of a home built for sale (Census nonconstruction cost factor).


- Construction costs that account for 56.0 percent of the house price (1995-2015 NAHB Construction Cost Survey average).

  etc... (see article for complete details)
### Table 1. Regulatory Costs Imposed During the Development Phase

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Lower Quartile</th>
<th>Average</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Pure&quot; cost of delay</td>
<td>2.3%</td>
<td>5.1%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Cost of applying for zoning / subdivision approval</td>
<td>3.4%</td>
<td>11.6%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Costs incurred after approval / before construction</td>
<td>5.6%</td>
<td>11.7%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Value of land dedicated / left unbuilt</td>
<td>2.2%</td>
<td>9.9%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Impact of changes in development standards</td>
<td>4.0%</td>
<td>16.4%</td>
<td>22.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29.8%</strong></td>
<td><strong>54.7%</strong></td>
<td><strong>70.7%</strong></td>
</tr>
</tbody>
</table>

#### B. Costs as a share of final price of the home sold to the ultimate buyer

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Lower Quartile</th>
<th>Average</th>
<th>Upper Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Pure&quot; cost of delay</td>
<td>0.6%</td>
<td>1.4%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Cost of applying for zoning / subdivision approval</td>
<td>0.9%</td>
<td>3.1%</td>
<td>4.5%</td>
</tr>
<tr>
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<td>3.1%</td>
<td>3.7%</td>
</tr>
<tr>
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<td>0.6%</td>
<td>2.6%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Impact of changes in development standards</td>
<td>1.1%</td>
<td>4.4%</td>
<td>6.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7.9%</strong></td>
<td><strong>14.6%</strong></td>
<td><strong>18.8%</strong></td>
</tr>
</tbody>
</table>

Source: Survey used to generate the NAHB/Wells Fargo HMI, March 2016; various assumptions described in the Appendix.
Government Regulation in the Price of a New Home

<table>
<thead>
<tr>
<th>Table 2. Regulatory Costs Imposed During Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Costs as a percentage of the builder's construction costs</strong></td>
</tr>
<tr>
<td>Permit, hook-up, impact, other fees paid by builder</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Changes in codes / standards over past 10 years</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td><strong>B. Costs as a share of final price of the home sold to the ultimate buyer</strong></td>
</tr>
<tr>
<td>Permit, hook-up, impact, other fees paid by builder</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Changes in codes / standards over past 10 years</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Survey used to generate the NAHB/Wells Fargo HMI, March 2016; various assumptions described in the Appendix.
Government Regulation in the Price of a New Home

Regulation as a Share of the Final Price of a Single-family Detached Home Built for Sale

- Lower Quartile: 7.9% (4.0%) + 3.9%
- Average: 9.7% (4.0%) + 5.7%
- Upper Quartile: 12.7% (5.7%) + 7.0%

* For quartiles, construction and development costs do not sum to the total.
Change in Average Regulatory Costs
25.0% of House Price in 2011; 24.3% in 2016
What if applied to average new home prices?

Average Cost of Regulation in the Price of a New Home

29.8% increase

Based on average new home price one month before the NAHB/Wells Fargo HMI surveys
How Does the 29.8% Increase in Average Regulatory Cost Compare to Other Changes 2011-2016?

- Regulatory costs in a single-family home: 29.8%
- Price index: homes under construction: 19.3%
- Regulatory costs: during development only: 19.1%
- Gross domestic product per capita: 14.9%
- Disposable personal income per capita: 14.4%
- PPI: construction materials: 10.3%
- Consumer Price Index: 6.1%

Rising more than twice as fast as average American’s ability to pay for it.

Regulatory costs based on avg new home prices 2/11 and 3/16 applied to survey data from the subsequent month.
Constant quality price index for new single-family homes under construction 1/11 and 2/16, U.S. Census Bureau.
Regulation: Imposed by All Levels of Government  
Federal, State, Local

- Can be difficult to tease out which is responsible
- Constitution generally leaves land use decision to states
- States usually delegate zoning/permitting authority to local jurisdictions
- Traditionally, local governments also adopt and enforce building codes
- However, there has been a trend toward more codes being adopted and effective statewide

- **Federal government is becoming more involved**
Regulation: Examples of Federal Involvement

- **National Permits for Residential Development**
  - Under the 1987 expansion of the Clean Water Act, most construction sites require a permit due to potential for stormwater runoff
  - Stormwater permits are issued by EPA, or by states under programs authorized and monitored by EPA
  - Many development projects also require wetlands permits from the U.S. Army Corps of Engineers

- **Building Codes / Resilience**
  - April 2016: DOE, FEMA, EPA propose and lobby for changes in the model International Residential Code (DOE also has a budget to help persuade states to adopt more recent & stringent codes)
  - May 2016: White House Conference on Resilient Building Codes
  - May 2016: HUD Office of CPD proposed rule to Modernize the Consolidated Planning Process and Increase Resilience
  - HUD also has an Office of Economic Resilience
Can make it difficult to build homes Americans can afford
Especially at the low end of the market

Consider…
Prices of new homes started in 2015
(Survey of Construction, U.S. Census Bureau & HUD)

vs.
Prices home buyers expect to pay
(NAHB 2015 survey of recent and prospective home buyers)
Price of Single-family Homes Started in 2015 vs. Price Buyers Expect to Pay

<table>
<thead>
<tr>
<th>Price Range</th>
<th>2015 SF Starts</th>
<th>What Buyers Expect to Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $100,000</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>$100,000 - $149,999</td>
<td>6%</td>
<td>16%</td>
</tr>
<tr>
<td>$150,000 - $249,999</td>
<td></td>
<td>29%</td>
</tr>
<tr>
<td>$250,000 - $349,999</td>
<td></td>
<td>28%</td>
</tr>
<tr>
<td>$350,000 - $499,999</td>
<td></td>
<td>21%</td>
</tr>
<tr>
<td>$500,000 - $999,999</td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>$1 million and over</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Medians
- Expect to Pay: $219,896
- 2015 SF Starts: $298,800

Sources: NAHB tabulation of data from the Survey of Construction, U.S. Census Bureau and HUD 2015 Home Buyer Preference Survey, NAHB
QUESTIONS??

Contact

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NAHB Economics and Housing Policy Group
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Thank You
Multifamily Construction: How Much Is Too Much?

Urban Institute Data Talk Series
July 13, 2016

Greg Willett
Chief Economist
RealPage, Inc.
Demand for apartments came roaring back in early 2010, with absorption totaling 1.6m units seen since then.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage.
Tailwinds that support apartment demand are largely solid

The housing demand generated by job additions is disproportionately going to rental units, including apartments, for both lifestyle and financial reasons.

Demographics say the cycle of strong demand has long legs, assuming overall economic growth is sustained.

Former homeowners “displaced” by the for-sale bust mainly ended up in single-family rentals, rather than apartments. But, current apartment renters are proving slow to opt for purchase.
More than six years into the cycle, completions are now beginning to catch up with demand.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage.
U.S. apartment occupancy has been essentially full for quite some time, and is still near record levels.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage.
Rent growth remains robust, especially since we’re deep into this economic/market performance cycle.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage.
Ongoing construction nearly doubles the long-term norm and well exceeds the last cycle’s peak.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage, minus New York.
Starts likely have peaked, but the crest in deliveries is continually being pushed out by construction delays.

Early 2016 did bring the first real signal of a slowdown in starts.

U.S. data is based on the 100 metros that form the core of MPF Research’s coverage, minus New York.
Here are some spots where 2016 completions should top the 2015 volume in a big way

<table>
<thead>
<tr>
<th>Location</th>
<th>Scheduled 2016 Deliveries</th>
<th>2015 Deliveries</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco, CA</td>
<td>7,320</td>
<td>1,598</td>
<td>+358%</td>
</tr>
<tr>
<td>Greenville, SC</td>
<td>2,440</td>
<td>578</td>
<td>+322%</td>
</tr>
<tr>
<td>Charleston, SC</td>
<td>3,694</td>
<td>958</td>
<td>+286%</td>
</tr>
<tr>
<td>Los Angeles, CA</td>
<td>13,237</td>
<td>5,177</td>
<td>+156%</td>
</tr>
<tr>
<td>Miami, FL</td>
<td>6,313</td>
<td>2,531</td>
<td>+149%</td>
</tr>
<tr>
<td>Nashville, TN</td>
<td>8,121</td>
<td>4,002</td>
<td>+103%</td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td>4,014</td>
<td>2,024</td>
<td>+98%</td>
</tr>
<tr>
<td>San Jose, CA</td>
<td>6,327</td>
<td>3,261</td>
<td>+94%</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>13,735</td>
<td>7,987</td>
<td>+72%</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>5,437</td>
<td>3,172</td>
<td>+71%</td>
</tr>
<tr>
<td>Tampa, FL</td>
<td>5,455</td>
<td>3,188</td>
<td>+71%</td>
</tr>
<tr>
<td>Phoenix, AZ</td>
<td>9,832</td>
<td>6,243</td>
<td>+57%</td>
</tr>
</tbody>
</table>
On the other hand, the surge in completions won’t register in a handful of locales

<table>
<thead>
<tr>
<th>City, State</th>
<th>Scheduled 2016 Deliveries</th>
<th>2015 Deliveries</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacksonville, FL</td>
<td>1,143</td>
<td>2,147</td>
<td>-47%</td>
</tr>
<tr>
<td>Minneapolis-St. Paul, MN</td>
<td>2,517</td>
<td>4,614</td>
<td>-45%</td>
</tr>
<tr>
<td>Las Vegas, NV</td>
<td>1,822</td>
<td>2,188</td>
<td>-17%</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>5,810</td>
<td>6,677</td>
<td>-13%</td>
</tr>
<tr>
<td>Fort Lauderdale, FL</td>
<td>2,651</td>
<td>2,884</td>
<td>-8%</td>
</tr>
<tr>
<td>San Diego, CA</td>
<td>2,609</td>
<td>2,810</td>
<td>-7%</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>2,985</td>
<td>2,921</td>
<td>+2%</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>9,800</td>
<td>9,076</td>
<td>+8%</td>
</tr>
<tr>
<td>Fort Worth, TX</td>
<td>3,397</td>
<td>3,066</td>
<td>+11%</td>
</tr>
</tbody>
</table>
Most of today’s biggest construction centers still have top-tier markets in strong shape

<table>
<thead>
<tr>
<th>Will Units on the Way Damage Rent Growth Anywhere?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units Under Construction</td>
</tr>
<tr>
<td>Nashville, TN</td>
</tr>
<tr>
<td>Dallas, TX</td>
</tr>
<tr>
<td>Austin, TX</td>
</tr>
<tr>
<td>Charlotte, NC</td>
</tr>
<tr>
<td>Denver-Boulder, CO</td>
</tr>
<tr>
<td>Houston, TX</td>
</tr>
<tr>
<td>Salt Lake City, UT</td>
</tr>
<tr>
<td>San Jose, CA</td>
</tr>
<tr>
<td>Raleigh-Durham, NC</td>
</tr>
<tr>
<td>West Palm Beach, FL</td>
</tr>
</tbody>
</table>

Building volumes clearly have played a part in slowed rent growth in Washington, DC. But that metro now is off the list of the most active construction centers.
The urban versus suburban story is a significant element in construction’s potential impact on market fundamentals.

Urban core submarkets are experiencing annual inventory growth near 5%, on average, more than twice inventory growth that’s running around the 2% mark on average in the suburbs.
Will affordability constraints dampen the ability to push rents and, thus, rein in construction activity?
Upgrades in resident quality generally are leaving rent-to-income ratios steady so far in this economic cycle.

Figures reflect actual lease transaction information for new residents in properties where RealPage technology solutions are in use.
Rent-to-income ratios look very manageable in top-end and middle-tier market-rate properties

Figures reflect actual lease transaction information for new residents in properties where RealPage technology solutions are in use.
Growing space in pricing power between product niches could have implications for what’s next
With additional transparency into the market, are we smarter and/or more disciplined than we’ve been in past cycles?
Thanks!

MPF Research, a division of RealPage, Inc.
www.mpfresearch.com
www.realpage.com

greg.willett@realpage.com
Housing Development in the Post-crisis World

July 2016

Jamie Woodwell
Vice President, Research & Economics
Mortgage Bankers Association
Multifamily Market Conditions

- Change in Population Age 16 - 29 (1000s, Left)
- Units Under Construction (1000s, Right)

Source: Census
Changes in Population Age 25-44 and Single Family Starts

Source: Census
With lack of overbuilding and shifts in demand, rental/multifamily market has tightened faster than single-family/ownership

Vacancy rates for single-family ownership (left) and multifamily rental (right) housing

- **Homeowner vacancy rate -- 1-unit buildings (left)**
- **Renter vacancy rate -- 5+ unit buildings (right)**
Multifamily apartment property prices have risen much more quickly than single-family home prices

Indexed values of U.S. national home prices and rents (Jan 1998 = 100) and of apartment building prices (Dec 2000 = 115) and rents

Sources: Case Shiller, Moody's/Real Capital Analytics and REIS
Developers have responded to market conditions, with strong multifamily development and slower single-family development.

Number of units under construction in 1-unit and 5+-unit buildings

Source: Census
Some regions are not building new housing to the degree one would expect – 2+unit Construction Starts (1,000s) and Rental Vacancy Rate

Source: Census
Some regions are not building new housing to the degree one would expect -- 1-unit Construction Starts (1,000s) and Homeowner Vacancy Rate

West

Midwest

South

Northeast

Starts -- 1-units (left)

Homeowner Vacancy Rate (right)

Source: Census
For a variety of reasons, single-family (and multifamily) construction costs more than it otherwise could

- Lots
- Locations
- Labor
- Materials
- Regulation

Source: MBA, NAHB and Wall Street Journal

Average Cost of Regulation in the Price of a New Home

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost of Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Survey</td>
<td>$65,224</td>
</tr>
<tr>
<td>2016 Survey</td>
<td>$84,671</td>
</tr>
</tbody>
</table>

- $22,535 During Construction
- $42,709 During Development
- $33,784 Total

Source: NAHB

Labor Crunch

While some markets, such as Texas, have seen construction employment grow over the past decade, the loss of workers has accompanied cost increases in many other markets.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phoenix</td>
<td>10.9%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>13.6%</td>
</tr>
<tr>
<td>Chicago</td>
<td>12.5%</td>
</tr>
<tr>
<td>Washington D.C.</td>
<td>10.4%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>12.8%</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>11.9%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>12.6%</td>
</tr>
<tr>
<td>Seattle</td>
<td>9.9%</td>
</tr>
<tr>
<td>Portland</td>
<td>12.1%</td>
</tr>
<tr>
<td>Austin</td>
<td>17.4%</td>
</tr>
<tr>
<td>Dallas/Ft. Worth</td>
<td>12.7%</td>
</tr>
<tr>
<td>New York</td>
<td>10.1%</td>
</tr>
<tr>
<td>Houston</td>
<td>12.3%</td>
</tr>
</tbody>
</table>


THE WALL STREET JOURNAL.
Much of the single-family construction infrastructure “blew-up” during the recession and it is unclear how it will be rebuilt

- Land aggregators, permitters, pre-developers
- Developers
- Labor
- ADC lending
- Move-up equity
- Mortgage availability

<table>
<thead>
<tr>
<th>Construction Loans as % of Assets</th>
<th>Share of Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000 Q4</td>
</tr>
<tr>
<td>&gt;$100 billion</td>
<td>0.9%</td>
</tr>
<tr>
<td>$10 - $100 billion</td>
<td>2.8%</td>
</tr>
<tr>
<td>$1 - $10 billion</td>
<td>3.9%</td>
</tr>
<tr>
<td>$100 million - $1 billion</td>
<td>4.4%</td>
</tr>
<tr>
<td>&lt;$100 million</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

* Based on 184 repeat MSAs in County Business Patterns
Potential for record housing demand over next decade

Projected Changes in Households, by Age 2014-2024

Using Forecasted Headship Rates

Source: Census and MBA