Housing and Economic Outlook

Housing Innovation Marketplace Conference
March 21st, 2017

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NAHB Senior Economist
MacroEconomic Overview
GDP Growth: United States

Growth accelerated in 2014 and 2015, but 2016 is the weakest year of the expansion

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT avg ('58-'07)</td>
<td>3.4%</td>
</tr>
<tr>
<td>2002-2007</td>
<td>2.7%</td>
</tr>
<tr>
<td>2008-2009</td>
<td>-1.5%</td>
</tr>
<tr>
<td>2010-2015</td>
<td>2.2%</td>
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</tbody>
</table>
Tight Labor Market

Rise of unfilled jobs

Job Openings Rate

Unemployment Rate

Percent, SA
Mortgage Rates are Rising

Monetary policy expected to continue tightening

![Bar chart showing mortgage rates from 2000 to 2018. The rates range from 3% to 9%, with a significant increase from 2000 to 2001.]

- 2000: 8.1%
- 2001: 7.0%
- 2002: 6.5%
- 2003: 5.8%
- 2004: 5.8%
- 2005: 5.9%
- 2006: 6.4%
- 2007: 6.3%
- 2008: 6.0%
- 2009: 5.0%
- 2010: 4.7%
- 2011: 4.5%
- 2012: 3.7%
- 2013: 4.0%
- 2014: 4.2%
- 2015: 3.9%
- 2016: 3.6%
- 2017: 4.4%
- 2018: 5.1%
Fiscal Policies and Impacts

- Taxes receipts lower
- Spending higher
- Deficit larger

- Higher GDP in short-run (stronger dollar offsets, lowering exports)
- Full employment implies higher interest rates, more inflation (long-term budget reform on hold)
Fiscal Policy is Different Now --- More Constrained

### Debt held by the public

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>25.1%</td>
</tr>
<tr>
<td>2001</td>
<td>31.4%</td>
</tr>
<tr>
<td>2017</td>
<td>76.6%</td>
</tr>
</tbody>
</table>

### Projected revenues (next 5 year average)

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>22.4%</td>
</tr>
<tr>
<td>2001</td>
<td>20.4%</td>
</tr>
<tr>
<td>2017</td>
<td>18.4%</td>
</tr>
</tbody>
</table>
Housing Market Overview
Existing Home Sales

Low inventory

**Months' Supply**

**Existing Home Sales**

**Existing Home Inventory**
Population

Rising population entering housing demand years

Millions

Avg=4.3

Born 1980 or later

Headship rates increase from 15% to 45%

Born 1967-80

Born 1948-65

Born 1947 or earlier
Existing House Price Index

House prices nationwide now exceed pre-recession peak

2000Q1 = 100, SA

2000Q1 = 100, SA

82%

102%

National Association of Home Builders
Demand-Side Headwinds
Mortgage Lending Standards

Standards are easing, but remain tight overall

1999-2003 Avg = 0.0%
Mortgage Lending Standards
Credit Scores remain tight

1999-2003 Average
DTI 90: 48%
Credit Score 10: 644
LTV 90: 95%
FHA Purchase Mortgages

With conventional loans tight, MIP cut may lower first-time home buyers

<table>
<thead>
<tr>
<th>Year</th>
<th>FT Buyer</th>
<th>Non-FT Buyer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>+42%</td>
<td>+13%</td>
</tr>
<tr>
<td>2015-2016</td>
<td>+14%</td>
<td>+5%</td>
</tr>
</tbody>
</table>

- 2014: FT Buyer = 205, Non-FT Buyer = 406
- 2015: FT Buyer = 577, Non-FT Buyer = 232
- 2016: FT Buyer = 659, Non-FT Buyer = 244

Thousands
RHS Mortgages for New Construction

Obligations for Section 502 mortgages are declining

Source: Author's calculations from data provided by the Department of Agriculture. Data covers new construction only.
Supply-Side Headwinds
Labor

Unfilled construction jobs rising

Job openings rate - Construction
12-month moving average
Lots

Housing Starts (Area) and Low/Very Low Lot Supply (bars)
Acquisition Development & Construction Lending

Views on Residential Lending Agree

NAHB Combined

OCC: Residential Construction Lending

Tightening

Easing

Residential Construction Lending

Survey reflects quarterly changes at high concentration banks

![Graph showing changes in high concentration banks, other institutions, and NAHB Index from 2007 to 2016.](image)
Residential Construction Lending

Growth at high concentration banks is more volatile, but share remains low.
Lending - AD&C Access

-50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100

Fed SLOOS
NAHB

Worse
Better
Commercial Construction Lending

Most HVCRE loans have a 150% risk weight

<table>
<thead>
<tr>
<th>Month</th>
<th>150%</th>
<th>Other Risk Weighting Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar-15</td>
<td>89%</td>
<td></td>
</tr>
<tr>
<td>Jun-15</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>Sep-15</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>Dec-15</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>Mar-16</td>
<td>99%</td>
<td></td>
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</tbody>
</table>

0% 20% 50% 100% 150%
Regulations
Regulatory burden contributes to higher costs

Regulatory burdens are rising for home builders
Up 29.8% over the last 5 years
Building codes
Environmental
Labor
Zoning

NAHB research finds that 24% final cost of a home due to
direct and indirect regulatory costs
3/5 of that total is associated with land use
Economics of Trade Policy

- Stronger dollar due to higher rates, GDP
- Move away from TPP
- More than ‘sound and fury’?
  - Tariffs would be a tax increase on consumers
  - Increase inflation and harm domestic supply chains
- Increase in Trade Adjustment Assistance would be stimulative
Home Prices of New and Existing Homes

*Prices began to diverge in 2008, gap widened more post 2012*

![Graph showing the median sales price difference between new and existing homes from 1990 to 2008, with an average difference of $20,000.](image-url)
Forecasts
Single-Family Starts: United States

Growing trend

Thousands of units, SAAR

- 2000-2003: 1,343,000 “Normal”
- 2013: 620,000
- 2014: 647,000 (4%)
- 2015: 713,000 (10%)
- 2016: 783,000 (10%)
- 2017: 855,000 (9%)
- 2018: 961,000 (12%)

Trough to Current:
- Mar 09 = 353,000
- Jan 17 = 823,000
- +133%

80% fall

2016Q4: 62% of “Normal”

2018Q4: 75% of “Normal”

Single-Family Starts: United States

Growing trend
Multifamily Housing Starts

Leveling off

Thousands of units, SAAR

Avg=344,000

Trough to Current:
4th Q 09 = 82,000
4th Q 16 = 415,000
+406%

1995-2003 331,000 “Normal”

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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<tbody>
<tr>
<td>2013</td>
<td>308,000</td>
</tr>
<tr>
<td>2014</td>
<td>355,000</td>
</tr>
<tr>
<td>2015</td>
<td>395,000</td>
</tr>
<tr>
<td>2016</td>
<td>392,000</td>
</tr>
<tr>
<td>2017</td>
<td>385,000</td>
</tr>
<tr>
<td>2018</td>
<td>371,000</td>
</tr>
</tbody>
</table>

2016Q4: 125% of “Normal”
2018Q4: 111% of “Normal”

76% fall
Distribution of Multifamily Starts by Type

Declines expected in large, market rate starts
RHS 538 Multifamily Program

Increase for new construction in recent years

Note: Years on horizontal axis represent the fiscal year in which the closed loan was obligated.
Source: Author’s calculations based on data publicly available from the USDA.
Residential Remodeling

Growth ahead

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Change</th>
</tr>
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<tbody>
<tr>
<td>2016</td>
<td>4.8%</td>
</tr>
<tr>
<td>2017</td>
<td>4.3%</td>
</tr>
<tr>
<td>2018</td>
<td>2.3%</td>
</tr>
</tbody>
</table>
Thank you

Questions?
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eyeonhousing.org
housingeconomics.com