The Effect of Higher Interest Rates on the Housing and Mortgage Markets

February 22, 2017

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Urban Institute-CoreLogic Sunset Seminar

Frank Nothaft, CoreLogic SVP & Chief Economist
February 22, 2017
Effect of Higher Mortgage Rates

Housing market effects:

- Affordability lessens
- Owner mobility may lessen, for-sale inventory remains lean

Mortgage market effects:

- Single-family originations: less refinance
  - New refi mix: more FHA-to-conventional, cash-out, longer-term
- Credit risk: relatively low on debt outstanding
  - New loans: credit box may open up, fraud risk may increase
Mobility Rate by Year After Purchase
Percent of home buyers that sell by length of ownership, 1976-2016

Source: CoreLogic
Resell Rate Higher when Rates Move Lower
Percent of home buyers that sell by length of ownership, 1976-2016

Source: CoreLogic
Rising Rates May Be A Hurdle for Resales
Percent of home buyers that sell by length of ownership, 1976-2016

Source: CoreLogic
Mortgage Originations: Drop in 2017 and Stable in 2018

Single-family Mortgage Originations (Billions of U.S. dollars)


Refi Booms End Quickly As Rates Come Off Lows
Cash-out refi and FHA-to-conventional refi continue

Refinance Share of Lending (Percent) 30-Year Fixed-Rate Mortgage Rate (Percent)

Source: Home Mortgage Disclosure Act, Freddie Mac Primary Mortgage Market Survey®, CoreLogic; 2017-2018 forecast is average of MBA, Freddie Mac, Fannie Mae and IHS Markit (FRM rate only) projections.
“In the Money” Refinanceable Loans Has Dwindled
11% have rate >5.25%, but 1-in-5 of these are in default

Cumulative Share of Active Balance by Interest Rate

11% of Active UPB Has a Rate > 4.25% + 100 bps

Current Rate +100 bps

Source: CoreLogic TrueStandings
FHA-to-Conventional Refinancing A Bright Spot

250,000 FHA to Conventional Refinances Expected in 2017

Number of Refinances

- 60,000
- 50,000
- 40,000
- 30,000
- 20,000
- 10,000
- 0


Share of Refinance

- 12%
- 10%
- 8%
- 6%
- 4%
- 2%
- 0%

FHA Drops MI Cancellation

FHA to Conventional Refinances - Left Axis
FHA to Conventional Refinance as a Share of Refinance - Right Axis

Source: CoreLogic
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Where to find more information

Look for regular updates to our housing forecast, commentary and data at

http://www.corelogic.com/blog

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Sunset Seminar

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Urban Institute
@MortgageLaurie

February 22, 2017
The Effect of Higher Interest Rates on the Housing and Mortgage Markets

- Higher rates lead to a choking off of refinancing activity
- Higher rates lead to mortgages trading with longer durations than models would predict, due to secular decreases in mobility.
- History indicates that, rising rates have been associated with increases in nominal home prices, despite decreased affordability. And, while less affordable than we were several months ago, payments are still affordable by historical standards. Moreover, a supply/demand imbalance gives a further boost to home price appreciation.
- We would expect some loosening of the credit box, both because of higher rates and less enforcement of the false claims act. In addition, this administration may be amenable to changes which make mortgage origination and servicing less cumbersome.
- FHA modifications will become more difficult to execute
Rising rates have choked off refinancing activity

PMMS rate vs. Refi Activity Index

Sources: Freddie Mac Primary Mortgage Market Survey (PMMS), Mortgage Banker Association (MBA), and Urban institute
As rates have risen, most of the mortgage universe has become non-refinanceable

Percent Refinancable vs. WAC

Sources: eMBS, Freddie Mac Primary Mortgage Market Survey (PMMS), and Urban institute
There has been a secular decline in interest rates since 1981

30-Year Fixed Rate Mortgage Rate and 10 Year Treasury Rate

PMMS Rate (Percent)

Sources: Freddie Mac Primary Mortgage Market Survey (PMMS), Credit Suisse, and Urban institute
Payment Rates May Slow More than Expected as Geographic Mobility is Down

Source: U.S. Census Bureau, Current Population Survey

Source: U.S. Census Bureau, Current Population Survey
Historically, Rising Rates have been Associated with Increases in Nominal Home Prices, Despite Decreased Affordability

**YOY HPI Growth (Percent)**

**PMMS YOY (Percent)**

Source: CoreLogic, Freddie Mac Primary Mortgage Market Survey (PMMS), U.S. Bureau of Labor Statistics (BLS), and Urban Institute.

Note: PMMS YOY = Year over year change in 30 year fixed rate mortgage rate based on Freddie Mac Primary Mortgage Market Survey (PMMS).

HPI YOY = Year over year growth rate of nominal home price Index. REAL HPI YOY = Year over year growth rate of home price Index in 2000 dollars.
## Supply/Demand Gap 2015

(Thousands of Units)

<table>
<thead>
<tr>
<th></th>
<th>1-4 family</th>
<th>5+ family</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Residential Completions</td>
<td>657</td>
<td>310</td>
<td>968</td>
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<tr>
<td>Manufactured Houses</td>
<td></td>
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<td>69</td>
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<tr>
<td>Gross New Supply</td>
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<td>1037</td>
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<tr>
<td>Less: Obsolescence Rate*</td>
<td></td>
<td></td>
<td>418</td>
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<tr>
<td>Net New Units</td>
<td></td>
<td></td>
<td>619</td>
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<tr>
<td>Household Formation</td>
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<td>1050</td>
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<tr>
<td>Supply/Demand Gap</td>
<td></td>
<td></td>
<td>-431</td>
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</tbody>
</table>

* 0.31% of existing stock

**Sources:** US Census Bureau, U.S. Department of Housing and Urban Development (obsolescence rate)
The Supply/Demand Picture, A Time Series

Supply and Demand for Housing

Difference Between Housing Supply and Housing Demand

Source: US Census data, Urban Institute Calculations
Home Prices are Still Affordable in a Reasonable Historical Context

National Housing Affordability Over Time

Housing Prices ($ thousands)

Sources: CoreLogic, US Census, Freddie Mac and Urban Institute.
Note: The maximum affordable price is the house price that a family can afford putting 20 percent down, with a monthly payment of 28 percent of median family income, at the Freddie Mac prevailing rate for 30-year fixed-rate mortgage, and property tax and insurance at 1.75 percent of housing value.

October 2016
Rate Rises are Often Accompanied by a Relaxation of Credit Standards

<table>
<thead>
<tr>
<th>Year</th>
<th>Loan Count</th>
<th>Total Original UPB ($B)</th>
<th>Average Original UPB ($)</th>
<th>Credit Score</th>
<th>Original Combined Loan-to-Value (CLTV) Ratio</th>
<th>Original Loan-to-Value (LTV) Ratio</th>
<th>Original Debt-to-Income (DTI) Ratio</th>
<th>Weighted Average Coupon (WAC)</th>
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<tbody>
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<td>1999</td>
<td>1,095,017</td>
<td>137.9</td>
<td>125,942</td>
<td>712</td>
<td>77.6</td>
<td>77.5</td>
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<td>7.3</td>
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<td>2000</td>
<td>786,272</td>
<td>103.7</td>
<td>131,824</td>
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<td>78.2</td>
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<td>73.8</td>
<td>34</td>
<td>6.5</td>
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<td>161,474</td>
<td>725</td>
<td>73.5</td>
<td>72.1</td>
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<td>718</td>
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<td>2005</td>
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<td>171,017</td>
<td>725</td>
<td>72.2</td>
<td>70.5</td>
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<td>37.6</td>
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<td>69.3</td>
<td>67.9</td>
<td>32.3</td>
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<td>2012</td>
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<td>69.9</td>
<td>68.6</td>
<td>31.4</td>
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<td>2013</td>
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<td>218,109</td>
<td>760</td>
<td>72.5</td>
<td>71.4</td>
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<td>2014</td>
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<td>754</td>
<td>75</td>
<td>74.2</td>
<td>34.3</td>
<td>3.9</td>
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<td>Total</td>
<td>22,516,808</td>
<td>4,159.40</td>
<td>184,723</td>
<td>740</td>
<td>72.9</td>
<td>71.5</td>
<td>34.1</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Sources: Freddie Mac Single-Family Loan Level Dataset Summary Statistics
All handouts from today’s event can be found at [www.urban.org/events](http://www.urban.org/events)