Economic and Housing Outlook

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Summary

- Economic Growth is Slowing to More Sustainable Growth Rate
- Job Market Very Tight, Wage Growth *Finally* Strengthening
- Structural Weakness Due to Rising Income and Wealth Inequality
- Home Sales are Rebounding and Price Growth is Stabilizing
- Demographic Tailwind is Approaching, But Supply of New Homes is Insufficient to Meet Demand
- Mortgage Performance is Solid but Consumer Credit is Worsening
Economic Growth is Decelerating...

Source: US Bureau of Economic Analysis, Freddie Mac June 2019 Economic and Housing Research Outlook
Slower Economic Growth Combined With Trade & Tariff Potential Headwind is Causing the Market to Get Nervous

Recession Probability Framework

<table>
<thead>
<tr>
<th>Source</th>
<th>Prob of a Recession (%)</th>
<th>Timeline</th>
<th>Variables</th>
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<tbody>
<tr>
<td>Freddie Mac</td>
<td>38</td>
<td>Twelve months ahead</td>
<td>Slope of Yield Curve</td>
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<tr>
<td>J.P Morgan</td>
<td>47</td>
<td>Within one year</td>
<td>Economic data</td>
</tr>
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</table>
Despite the Negative Headlines, Consumer Spending is on Solid Ground

Percent Change from Year Ago in Final Domestic Sales

Source: US Bureau of Economic Analysis
Unemployment Rate at 50 Year Low and Stable

Unemployment Rate (%)
While Labor Market is Doing Well, Until Very Recently Wage Growth Had Been Very Low…

...And Weak Income for Lower Middle Class Has Been an Issue for Decades

Note: Bureau of the Census 1967 to 2017 Incomes
Household Wealth Soaring; However Wealth Has Declined for All But Wealthiest Americans

After the 2018 Slowdown, Home Sales Slowly Regain Momentum in 2019

Sources: National Association of Realtors (NAR)
Purchase Demand is Higher than Early Last Year Before the Slowdown

Source: Freddie Mac and MBA
Long-Term View Suggests Purchase Market Clearly Remains Wounded

Weekly Purchase Applications From 1990 - Present

Source: Freddie Mac and MBA
Large Wave of Entry-Level Buyers Coming

Population by Age Cohort, 2018

Largest Age Cohorts

Median Age of First Time Buyer

Source: U.S. Census Bureau
U.S. Added Fewer Housing in 2018 Than In Only Two Years Prior to 2008

U.S. new housing supply low relative to history
U.S. annual housing completions and manufactured home shipments (1000s)

1982 and 1991 only years prior to 2008 with fewer units than 2018 (1288)

Source: U.S. Census Bureau and Department of Housing and Urban Development, Institute for Building Technology & Safety
Cumulative Shortfall in Supply Since 2000 is over 4 Million Housing Units…

Source: U.S. Census Bureau and Department of Housing and Urban Development, Institute for Building Technology & Safety
Lack of Investment Not Limited to Housing but the Entire Nation’s Capital Stock of Assets

Source: Bureau of Economic Analysis
Lack of Supply Causing Affordability to Worsen

Cumulative Growth since 1980 (%)

U.S. Existing single-family median home price

Max gap (2005) = 89 points

U.S. median household income

2018 gap = 63 points

Source: Census and NAR
Underbuilding is Causing a Large and Widening Gap Between Entry and Luxury Price Increases…

Source: CoreLogic
Expansion in Purchase Underwriting Has Slowed

Note: FICO stands for Fair Isaacs Company, which creates a credit score sometimes referred to as the FICO score. LTV is an acronym for Loan-To-Value ratio and DTI is the Debt to Income ratio. 2019 data through March.

Source: eMBS
Recent Cohorts (Millennials) Homeownership Rates Are Lagging Due to Affordability Obstacles

Source: Federal Reserve
High Housing Costs Are the Main Culprit Behind the Drop in Young Adult Homeownership Rates

Homeownership Rate of Young Adults (Less than 35 Years Old)

Contribution to Homeownership Gap for Young Adults, 2000 to 2016

Source: Census and Freddie Mac
...Causing Many First Time Buyers Moving Further Out in the Suburbs Due to Affordability Pressures

Distance From City Center for Inner Ring Quartile First Time Buyers

Source and Note: This is using Freddie Mac first time homebuyers. Each loan was geocoded and we computed the Euclidean distance to city center for each property. The analysis was done for the 50 largest metros.
Home Prices Decelerated in 2018, but Have Already Stabilized

Month over Month Home Price Change (SA)

Source: Freddie Mac House Price Index, SA
Data as of April 30, 2019
Home Price Performance by State – April 2018 to April 2019

United States: 3.7%
Significant Variability by Region and State Since the Peak

1 The Freddie Mac House Price Index for the U.S. is a value-weighted average of the state indexes where the value weights are based on Freddie Mac’s single-family credit guarantee portfolio. Other indices of home prices may have different results, as they are determined using different pools of mortgage loans and calculated under different conventions. The Freddie Mac House Price Index for the U.S. is a non-seasonally adjusted monthly series. Percent changes were rounded to nearest whole percentage point.

Source: Freddie Mac
Slowdown in Home Prices Occurred More Intensely in Attached Properties

Seattle

New York

Los Angeles

Dallas
New Foreclosures Starts are at 30-Year Lows

Serious Delinquency Rate

New Foreclosure Start Rate

Source: Freddie Mac and MBA
Mortgage Performance is Best in Two Decades

16 Month Serious Delinquency Rate by Vintage Year

Source: CoreLogic, purchase loans only.
Recent Vintages Performing Well

Serious Delinquency Rate by Vintage Year

2000 to 2007

- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007

2008 to 2013

- 2008
- 2009
- 2010
- 2011
- 2012
- 2013

2014 to 2018

- 2015
- 2016
- 2017
- 2018

Source: CoreLogic, purchase loans only.
Mortgage Performance is Solid Even for Higher Risk Categories

Source: CoreLogic, purchase loans only.
Consumer Credit is Deteriorating…

Source: Federal Reserve
Auto Loans Delinquency Transition Rates Are Rising Even for Middle Credit Borrowers

Source: NYFRB
Delinquencies are Rising Because Consumer Debt Service Ratios Are Rising

Even though Debt Service Ratio is Low…

…But it Masks Rise in Consumer Debt

Source: Federal Reserve Board
Shaded areas indicate U.S. Recessions
Auto, Farm and Credit Cards Performance Deteriorated the Most Among Selected Bank Loan Segments

Q1 2016 to Q1 2019 Pct Change in 30 to 89 Past Due Rate

-30%  -20%  -10%  0%  10%  20%  30%  40%

Auto Loans
Agricultural Production Loans
Credit Cards
Farmland Properties
SF Residential Construction Loans
Home Equity Lines of Credit
Construction and Development Loans
Total Loans & Leases
Commercial Properties
SF Family Residential Mortgage
Multifamily Residential Properties

Source: FDIC
The End!

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Economic & Housing Research: www.freddiemac.com/research