



## ZAIS Insights

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## Housing on track for moderate gains

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Housing was the soft spot of the U.S. economy in 2018.<sup>1</sup> In our judgment, that was not a sign of fundamental trouble like excesses as in the bubble years, but binding affordability constraints, especially for lower-income families.

With mortgage rates now lower, we believe housing is well positioned to grow solidly in line with household formation and incomes. Indeed, first indicators like the National Association of Home Builders (NAHB) housing market index,<sup>2</sup> point to a recovery in housing activity this year.

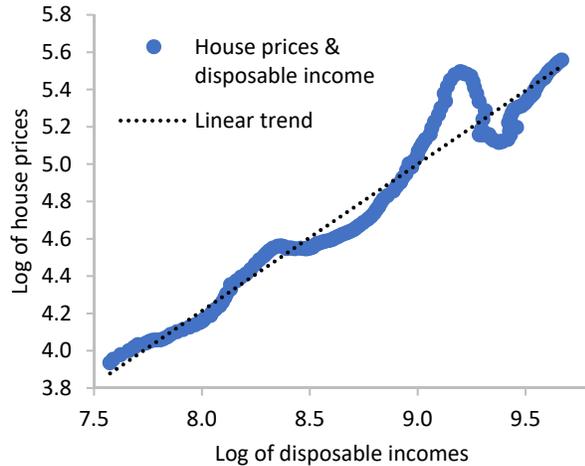
### No imbalances and excesses

We see no problematic imbalances and excesses in housing.

- House prices have recovered from the crisis, but not overshoot levels consistent with underlying income growth (see Chart 1 next page)
- Housing construction activity has risen over the years, but not returned to the boom levels of the bubble years.<sup>3</sup>
- The household debt burden is well below the levels seen before the financial crisis.<sup>4</sup>

Moreover, there is no stress in housing. Prices are slowing, but not plunging, and home vacancies as well as mortgage delinquencies are not surging.<sup>5</sup>

**Chart 1: House prices & disposable income**  
1980: Q1 to 2018: Q4



Source: Bank for International Settlement, Federal Reserve Bank of St. Louis and ZAIS calculations.<sup>6</sup>  
Note: Each point forming the blue line above represents a sequential quarterly observation beginning with Q1 1980 at the left-most point and ending with Q4 2018 at the right-most point.

### Affordability is becoming binding ...

The recent slowdown in housing is, in our view, primarily an affordability issue.

Conventional measures of affordability focus primarily on mortgage payments relative to incomes. On that score, housing seems affordable to us, given the multi-decade decline in interest rates (see Chart 2).

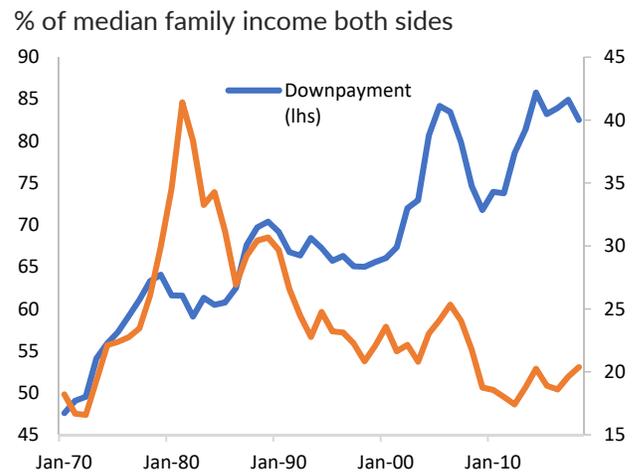
However, affordability looks different when considering downpayments, which typically account for 20% of the purchase price.

Currently, a median family has to put up more than 80% of its annual income for a 20% downpayment, which is similar to the peak levels seen during the bubble years and well above levels in the 1990s or earlier (see Chart 2).

During the housing bubble, homebuyers were able to circumvent traditional affordability constraints as lenders provided the funding by relaxing mortgage underwriting guidelines and offering mortgage affordability products such as zero downpayment and teaser payment loans.

This easier access to credit enabled buyers to focus more on future house price gains than longer-term affordability.

**Chart 2: Housing affordability**



Source: Federal Reserve Bank of St. Louis and ZAIS calculations.<sup>7</sup>

Affordability also differs by region (see Table 1). Housing is least affordable both in terms of downpayment as well as service payment in the North East followed by the West.

The South has become more expensive, probably due to the shale-gas boom in Texas, but is still below the national average, while housing is relatively more affordable in the Mid-West.

**Table 1: Housing affordability by region**

Region	Downpayment	Service*
U.S.	82.5	20.4
North-East	108.5	26.8
South	79.2	19.5
Mid-West	70.7	17.5
West	98.8	24.4

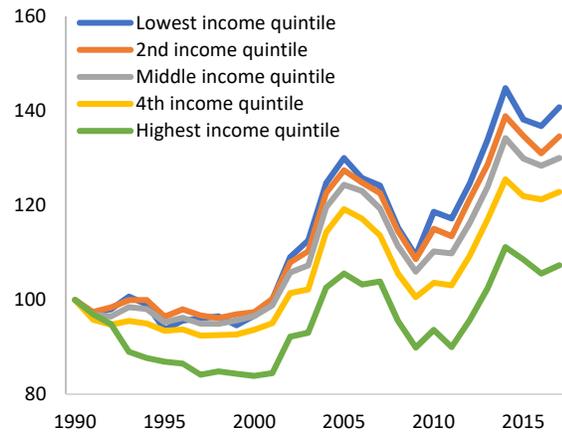
Source: Federal Reserve Bank of St. Louis and calculations by ZAIS;<sup>8</sup> \* Service is interest and amortization payment.

## Affordability is becoming binding especially for lower incomes

Affordability becomes especially a constraint for lower-income households. While housing prices have generally outpaced incomes over the last 20 years, the gap has become especially wide for the lower-income half of the population (see Chart 3).

**Chart 3: House price/income by quintiles**

prices/income as Index 1990 = 100



Source: United States Census Bureau, Federal Reserve Bank of St. Louis and calculations by ZAIS.<sup>9</sup>

## Higher mortgage hurdles

The affordability constraint was also enforced by the tightening of mortgage lending rules following the financial crisis. This especially affects lower-income families, which typically have lower credit scores. Prior to the financial crisis, mortgage origination below the top credit scores accounted for roughly 75% of all mortgages, now it is less than 50% (see Chart 4).

## Room for growth at normal speed

However, while affordability is a constraint it is unlikely to derail housing unless mortgage rates surge or incomes collapse, both of which we view as unlikely events for at least the next year.

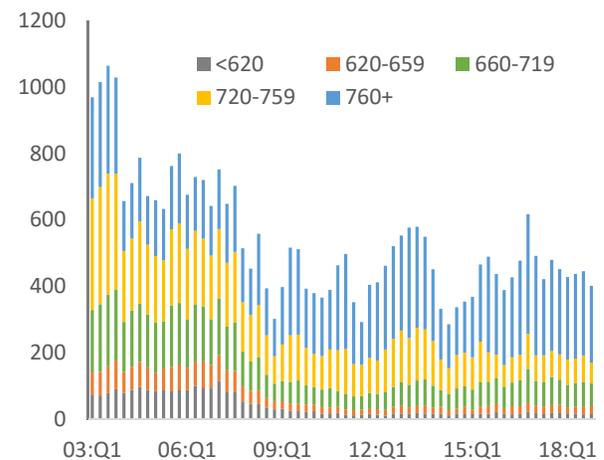
Indeed, with mortgage rates now down nearly one percentage point<sup>10</sup> since the end

of last year, we see room for growth along the affordability constraint and in line with nominal incomes, which we expect to grow steadily, as well.

This positive outlook is also supported by the steady trend-increase in household formation from a rate below 0.5% per annum during the crisis to currently well above 1%; tight supply visible in low vacancy rates; and more recently rising homeownership rates of the younger population (see Chart 5).

**Chart 4: Mortgage origination by credit score**

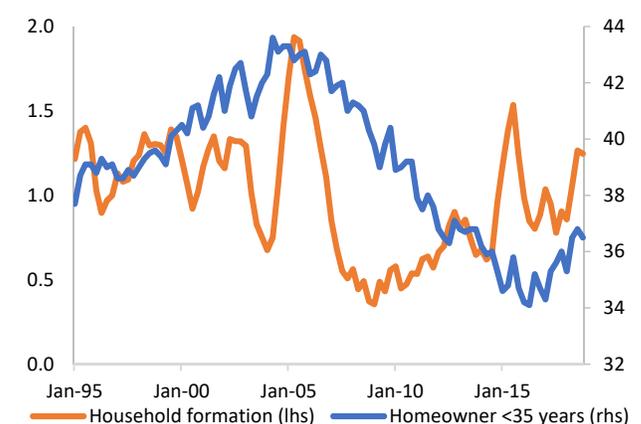
Billions of Dollars



Source: New York Fed Consumer Credit Panel/Equifax<sup>11</sup>

**Chart 5: Household formation and homeownership rate of <35 years old**

% OYA 4QMA (lhs) and % of all < 35 years (rhs)



Source: Federal Reserve Bank of St. Louis, US Census

Bureau and ZAIS calculation is the transformation of the original household formation data to %OYA.<sup>12</sup>

## More information

As always, we are available to discuss our views with you. Please contact your client relations representative at +1 732 978 9722 or [zais.clientrelations@zaisgroup.com](mailto:zais.clientrelations@zaisgroup.com).

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<sup>1</sup> Real residential fixed investment was down 3% by the end of 2018 from a year earlier.

U.S. Bureau of Economic Analysis, Real Private Residential Fixed Investment [PRFIC1], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PRFIC1>, April 8, 2019.

<sup>2</sup> The NAHB Housing Market Index recovered from 56 in December 2018 to 62 in March 2019; Current Data Table 2, NAHB/Wells Fargo National HMI – History. <https://www.nahb.org/en/research/housing-economics/housing-indexes/housing-market-index.aspx>.

<sup>3</sup> The level of housing starts is about half that of the pre-crisis peak.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Housing Starts. Total: New Privately Owned Housing Units Started [HOUST], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/HOUST>, April 8, 2019.

<sup>4</sup> The household debt to GDP ratio has declined over 20% points since the financial crisis. <https://tradingeconomics.com/united-states/households-debt-to-gdp>

Source: Tradingeconomics.com, Bank for International Settlements

<sup>5</sup> House price appreciation has moderated from 7.5% in January 2018 to 5.6% in December 2018.

U.S. Federal Housing Finance Agency, Purchase Only House Price Index for the United States [HPIPONM226S], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/HPIPONM226S>, April 8, 2019.

The homeowner vacancy rate has remained stable around 1.5%.

U.S. Census Bureau, Homeowner Vacancy Rate for the United States [RHVRUSQ156N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/RHVRUSQ156N>, April 8, 2019.

The mortgage delinquency rate was at 1.1% at the end of 2018.

[https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf//HHDC\\_2018Q4.pdf](https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf//HHDC_2018Q4.pdf).

<sup>6</sup> House prices are from BIS Residential Property Prices long series (nominal). [https://www.bis.org/statistics/pp\\_long.htm?m=6%7C288%7C595](https://www.bis.org/statistics/pp_long.htm?m=6%7C288%7C595)

Disposable income is from FRED Disposable Personal Income.

U.S. Bureau of Economic Analysis, Disposable Personal Income [DPI], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DPI>, April 8, 2019.

<sup>7</sup> Interest and amortization payment as well as the downpayment are calculated assuming a median-income family buys a median-priced single house and takes a 30-year mortgage with a LTV of 80% and repays the entire mortgage over the 30-year period.

The data used for the calculation is retrieved from Federal Reserve Bank of St. Louis.

30-Year Fixed Rate Mortgage Average in the United States.

Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MORTGAGE30US>, April 8, 2019.

Median Sales Price of Houses Sold for the United States.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the United States [MSPUS], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSPUS>, April 8, 2019.

Median Family Income in the United States.

U.S. Census Bureau, Median Family Income in the United States [MEFAINUSA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MEFAINUSA646N>, April 8, 2019.

<sup>8</sup> Same calculations as in footnote 7, but using house price and family income data from the four regions from Federal Reserve Bank of St. Louis.

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Median Sales Price of Houses Sold for the Northeast Region.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the Northeast Census Region [MSPNE], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSPNE>, April 8, 2019.

Median Family Income in Northeast Region.

U.S. Census Bureau, Median Family Income in Northeast Census Region [MEFAINUSNEA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MEFAINUSNEA646N>, April 8, 2019.

Median Sales Price of Houses Sold for the South Region.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the South Census Region [MSPS], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSPS>, April 8, 2019.

Median Family Income in South Region.

U.S. Census Bureau, Median Family Income in South Census Region [MEFAINUSSOA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MEFAINUSSOA646N>, April 8, 2019.

Median Sales Price of Houses Sold for the Midwest Region.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the Midwest Census Region [MSPMW], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSPMW>, April 8, 2019.

Median Family Income in Midwest Region.

U.S. Census Bureau, Median Family Income in Midwest Census Region [MEFAINUSMWA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MEFAINUSMWA646N>, April 8, 2019.

Median Sales Price of Houses Sold for the West Region.

U.S. Census Bureau and U.S. Department of Housing and Urban Development, Median Sales Price of Houses Sold for the West Census Region [MSPW], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSPW>, April 8, 2019.

Median Family Income in West Region.

U.S. Census Bureau, Median Family Income in West Census Region [MEFAINUSWEA646N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MEFAINUSWEA646N>, April 8, 2019.

<sup>9</sup> United States Census Bureau. Historical Income Tables: Income Inequality, Table A-2.

<https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-inequality.html>

Median Sales Price of Houses Sold for the United States <https://fred.stlouisfed.org/series/MSPUS> adjusted to real terms with Consumer Price Index Research Series Using Current Methods CPI-U-RS <https://www.bls.gov/cpi/research-series/home.htm>

<sup>10</sup> The 30-year fixed-rate mortgage rate fell from 4.94% in November to 4.06% most recently.

Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MORTGAGE30US>, April 8, 2019.

<sup>11</sup> New York Fed Quarterly Report on Household Debt and Credit, February 2019, page 6. [https://www.newyorkfed.org/medialibrary/interactive/s/householdcredit/data/pdf//HHDC\\_2018Q4.pdf](https://www.newyorkfed.org/medialibrary/interactive/s/householdcredit/data/pdf//HHDC_2018Q4.pdf).

<sup>12</sup> Household formation is calculated from Housing Inventory Estimate: Occupied Housing Units for the United States.

U.S. Census Bureau, Housing Inventory Estimate: Occupied Housing Units for the United States [EOCCUSQ176N], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/EOCCUSQ176N>, April 8, 2019.

And the homeownership rate < 35 years; Table 19, Housing Vacancies and Homeownership, U.S. Census Bureau. <https://www.census.gov/housing/hvs/data/histtabs.html>.

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