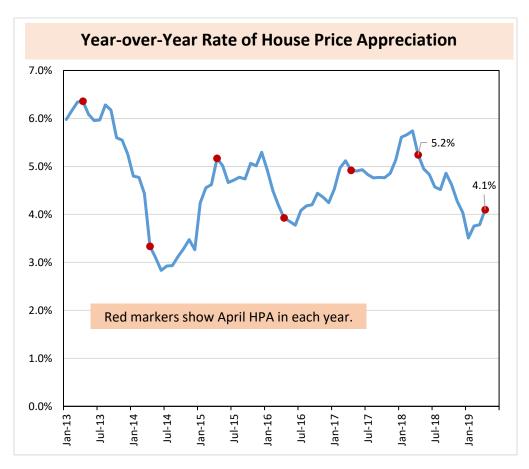
AEI Home Price Appreciation Index and Market Conditions Report May 30, 2019

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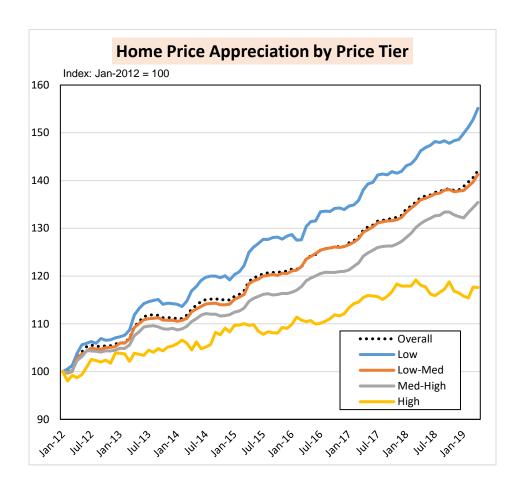
Key Takeaways:

- Home Price Appreciation Rose 4.1% Year-over-Year in April 2019;
- Low Price Tier Continues to Overheat:
- Seller's Market Conditions Persist, but Show Some Moderation on a National Basis.

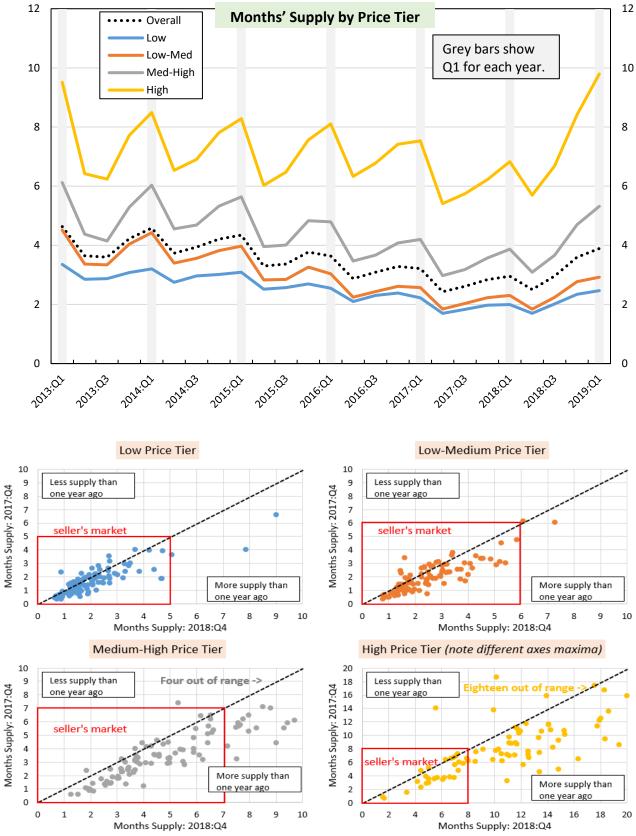
Home price appreciation (HPA) for April 2019, as reported by the <u>AEI Housing Center</u>, was 4.1%, down from 5.2% in April 2018. However, HPA has begun to re-accelerate--the April rate is up from 3.8% in March 2019 and the recent low of 3.5% in January 2019. Note: all rates are year-over-year (y-o-y).



For the nation, house prices since 2012 have increased 42%, well in excess of wage growth of 25% over the same period. When broken down by price tier, the low tier continues to overheat, having increased by 55% since 2012. The low-medium tier has increased by 41%, the medium-high by 35%, and the high tier by 18%.



Seller's market conditions continue, but show some moderation on a national basis. The national seller's market, now entering its sixth year, continues to be largely driven by strong demand and tight supply in the low and low-medium price tiers.



^{*} The demarcation point between buyer's and seller's market likely varies by price point. We have estimated them at 5, 6, 7, and 8 months respectively. Note: Data for largest 100 metros using Zillow's existing home sales.

"The U.S. housing market continues to heat up, due to sharply lower interest rates, continued easy credit availability, and persistently tight supply," said Edward Pinto, co-director of the AEI Housing Center. He added: "The national seller's market, now in its sixth year, is largely driven by month's inventory for the low and low-medium tiers of [2.5] and [3] months respectively." Pinto also noted: "Rising HPA with respect to the low and low-medium tiers (about 75% of which are first-time buyers (FTBs)) continue to strain the budgets of these buyers. In February (latest data available) 37% of all FTBs had a total debt-to-income ratio in excess of 43%, the Qualified Mortgage regulatory limit due to become effective for most loans starting in January 2021."

"The low, low-medium, and medium-high price segments, accounting for over 90% of the market, are all showing accelerating house price appreciation year-over-year," observed Tobias Peter, senior research analyst at the AEI Housing Center. He added: "It is only the high price segment, accounting for less than 10% of the market, that has April still showing a year-over-year decline, however that 0.4% decline is a marked improvement from February's decline of 2.1%." He also noted: "With mortgage rates now down a full point since November 2018, we can expect a further rebound in the rate of house price appreciation and a strengthening of seller's market conditions."

HPA and months' supply data are available for download on the Housing Center's website.

Home Price Appreciation Methodology:

Basics of HPA index construction

HPA is a "quasi" repeat sales index with a hedonic element. The index measures HPA by constructing an artificial sales pair consisting of one actual sale and one "artificial" sale as measured by the property's Automated Valuation Model (AVM.) The AVM approximates a property's sale price at a given point in time. The AVM used is unbiased and accurate.

Advantages of AEI's HPA Index:

It combines the best of repeat (Case-Shiller and FHFA) and hedonic (Zillow) models. Unlike a true repeat sales index, which is limited to repeat sales and may therefore be biased, AEI's index includes the entire universe of sales. Unlike a true hedonic index, which incorporates every property (even unsold ones), it reduces the amount of errors since at least one sale of the transaction pair actually occurred. Allows for an index construction by price tier and fine geographic levels (down to census tract).

Data for the HPA index

National Public Records data and AVM for Dec-2017 come from First American via DataTree.com. Uses virtually all institutionally financed sales back to January 2012. Data are weighted at the county level to adjust for minor amounts of missing data. HPAs for the medium-

high and high price tiers are spliced around the time of loan limit changes. Data exclude new construction sales, sales of distressed properties, and sales of properties that sold multiple times within a one year period. The final dataset includes 14.2 million purchase transactions. Data for 2019 are preliminary.

AEI House Price Appreciation Indexes are published nationally and by price tier.

Months' Supply Methodology:

Months' supply measures how many months it would take for the inventory of existing homes for sale to be exhausted at the current sales pace. Across all price points, six months is generally considered the demarcation point between a buyer's and seller's market. AEI estimates that this demarcation point varies by price tier due to differential pace of sales.

Inventory is measured by taking daily snapshots of available listings over various points of a quarter. These data exclude pending home sales. Inventory and existing home sales number are provided at the price tier level by Zillow.

Price Tier Methodology:

The four tiers are set at the metro level, adjusted quarterly, and defined as follows:

- Low: all sales at or below the 40th percentile of FHA sales prices;
- Low-Medium: all sales at or below the 80th percentile of FHA sales prices;
- Medium-High: all sales at or below 125% of the GSE loan limit; and
- High: Rest. HPAs are smoothed around the times of FHFA loan limit changes.

FHA sales prices come from the FHA Snapshot data and assume a CLTV of 98.2%.

Tier shares as a percentage of national financed home sales:

• Low: about 28%;

Low-Medium: about 28%Medium-High: about 36%

• High: about 8%