

Are We in A Housing Bubble?

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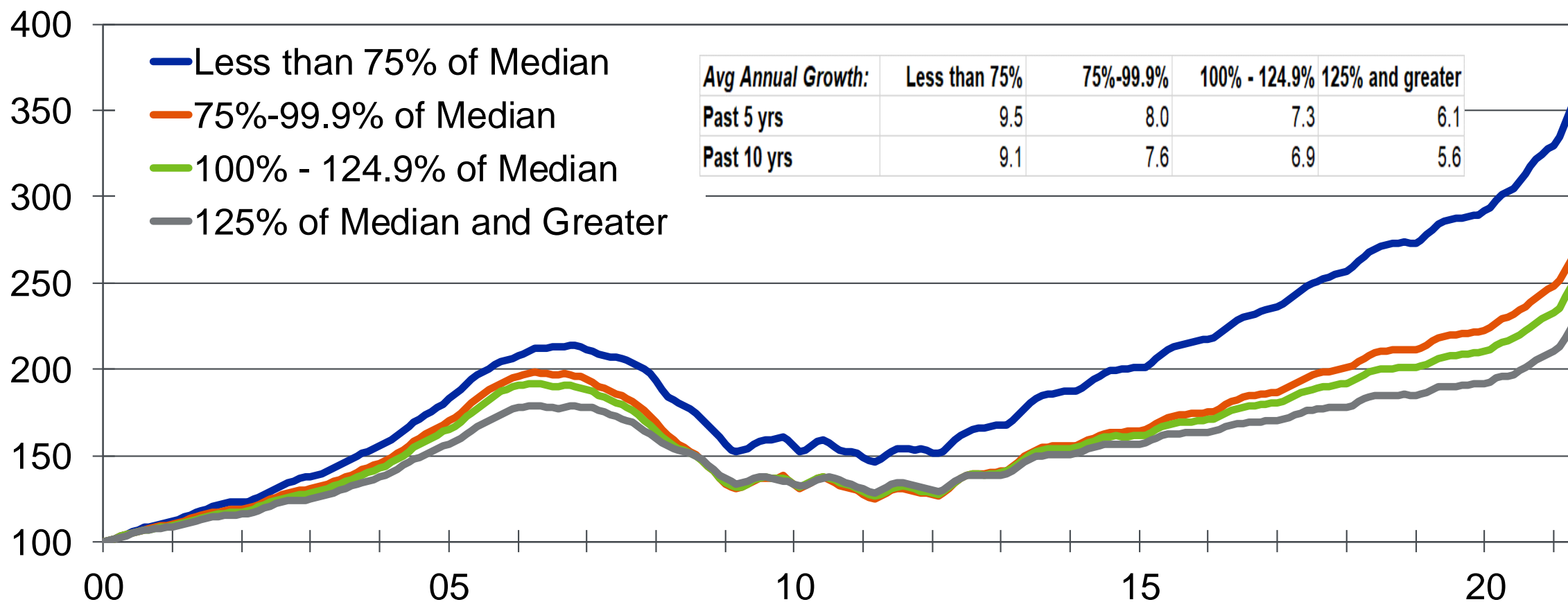
June 2021

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Housing Is Hot

House Prices Sizzle...

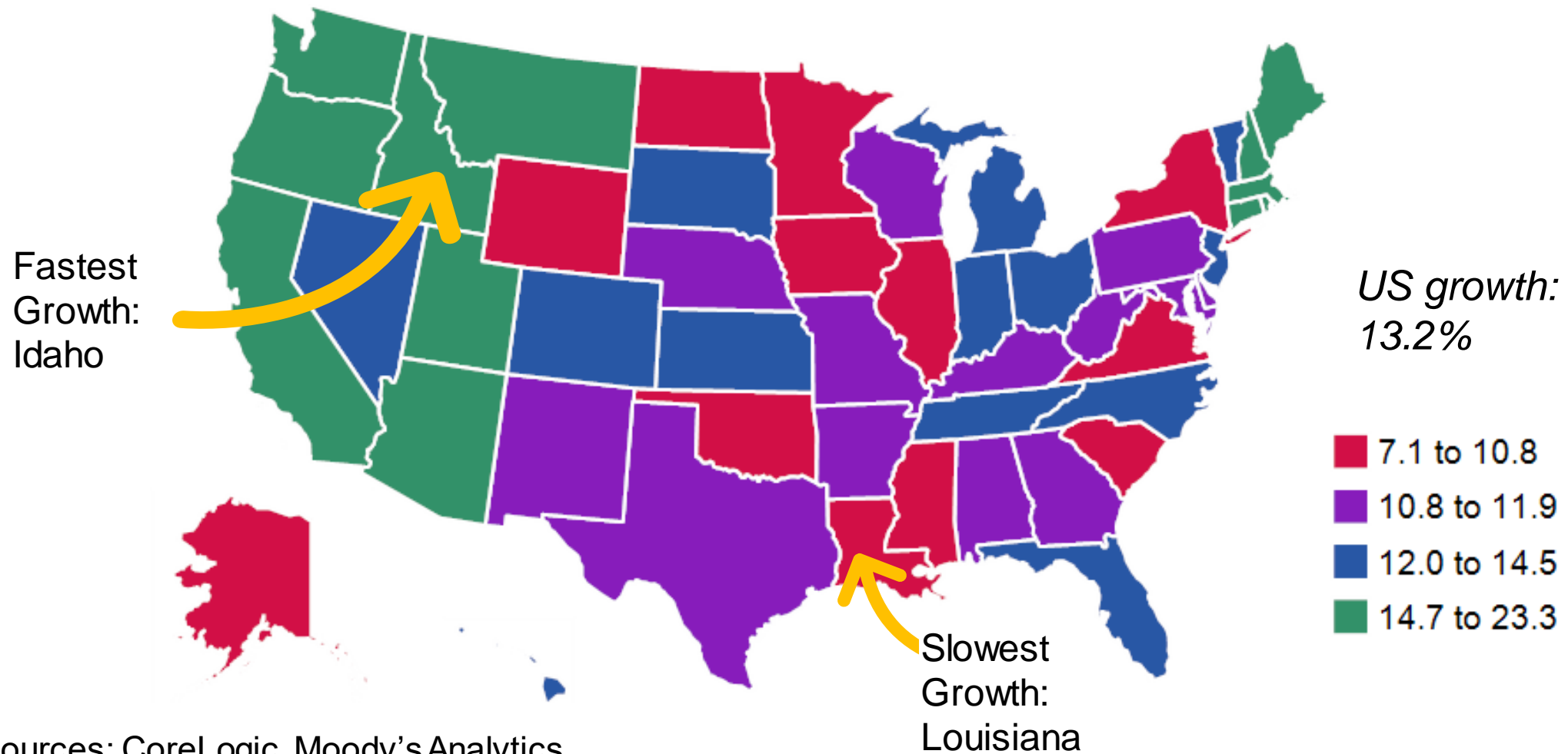
Single family house prices by price tier, index: 2000 = 100



Sources: CoreLogic, Moody's Analytics

...Across the Country

Single family house prices, % yr ago, April 2021



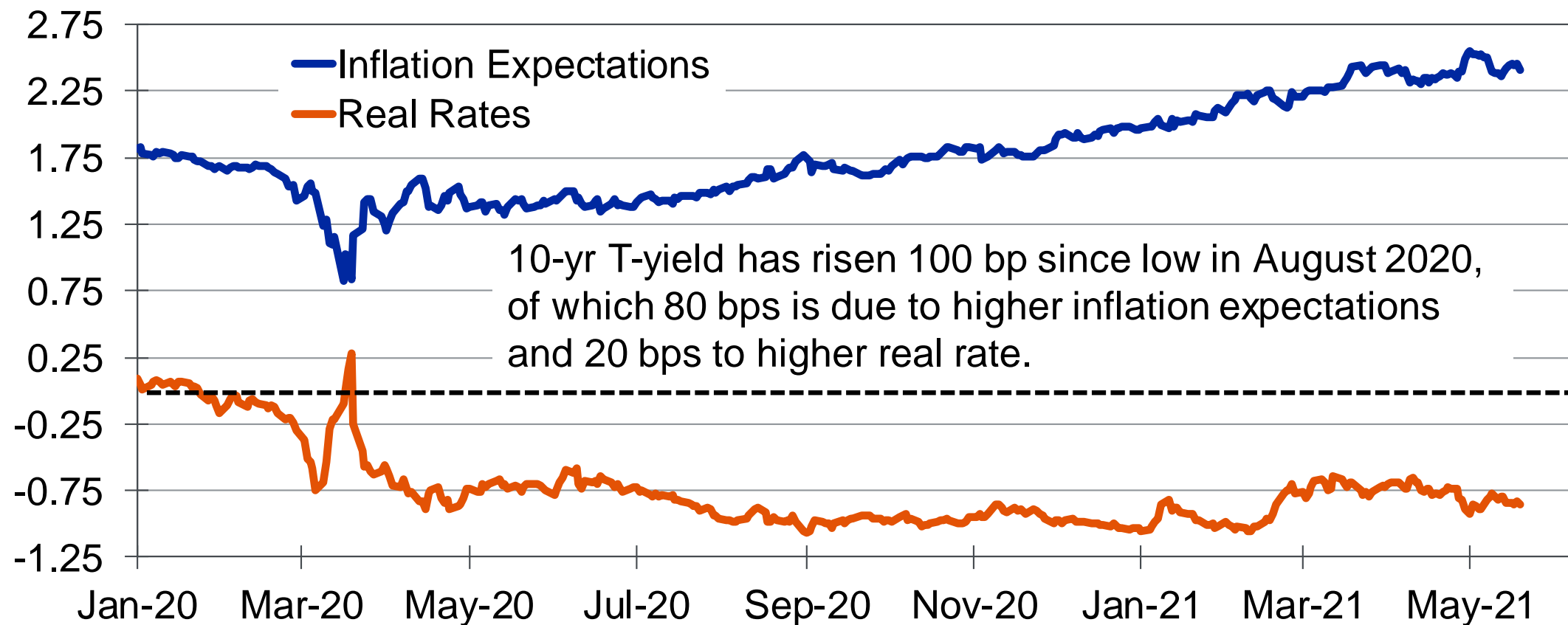
Sources: CoreLogic, Moody's Analytics

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Housing Will Cool Off

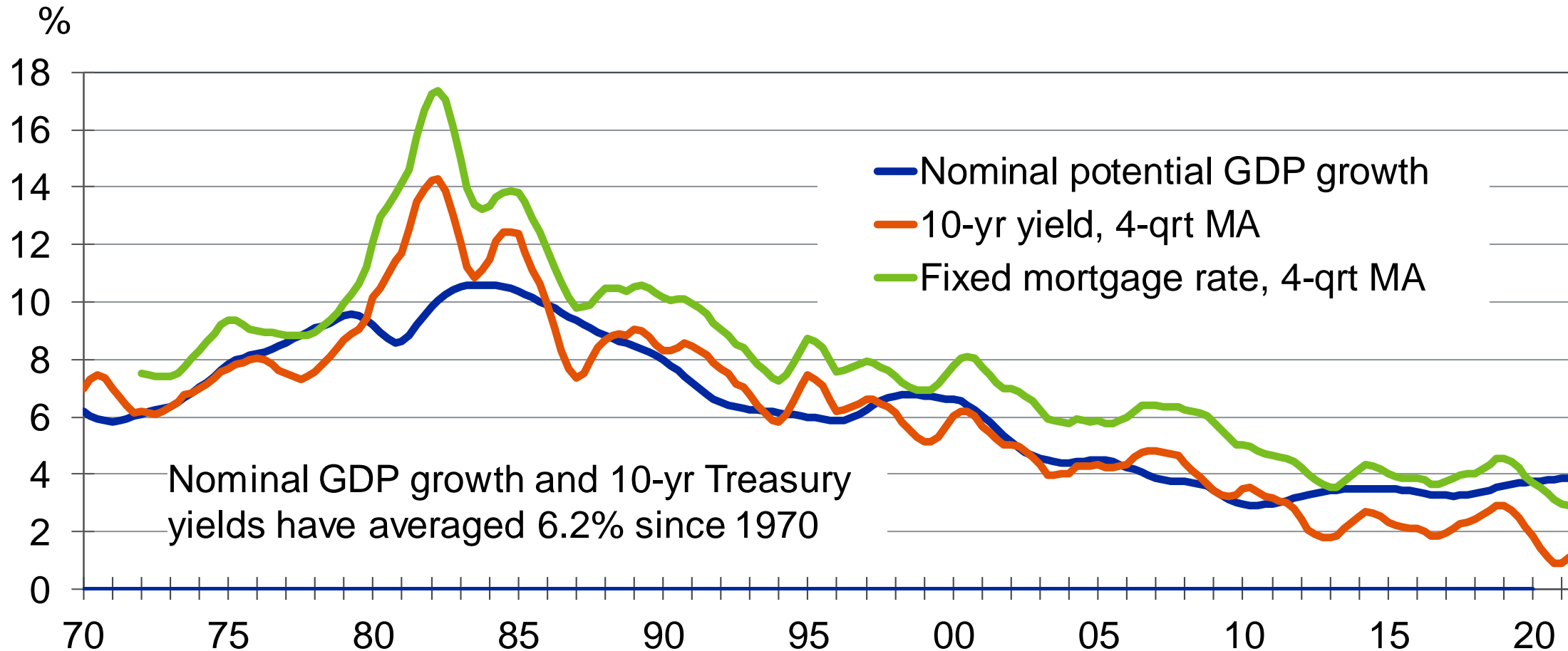
Interest Rates Are Set To Normalize...

10-year Treasury yield decomposed, %



Sources: Federal Reserve, Moody's Analytics

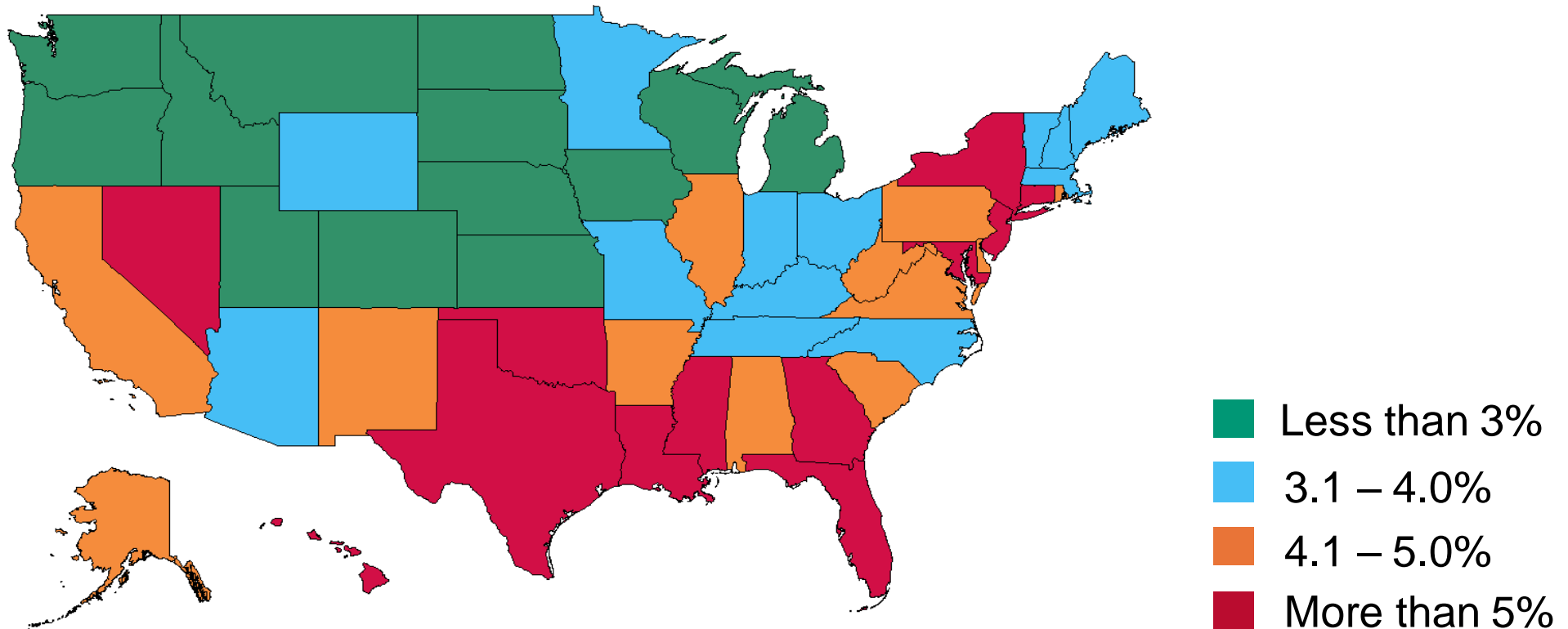
...Pushing Mortgage Rates Higher



Sources: BLS, Moody's Analytics

Forbearance Cliff Comes Into View

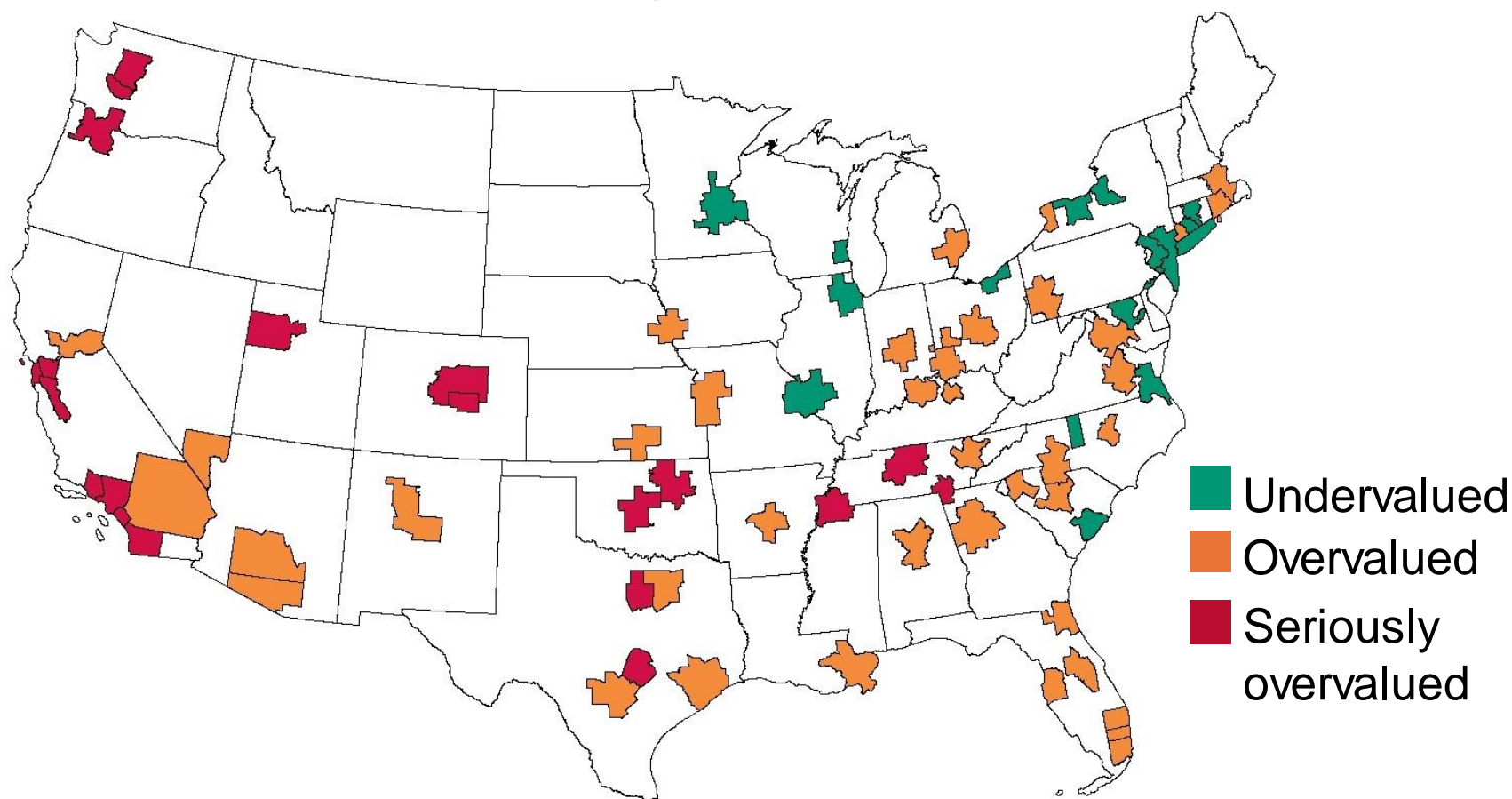
First mortgage loan accommodations, % of loan balances, May 2021



Sources: Equifax, Moody's Analytics

House Price Valuations Are Stretched

House price valuation based on ratio of prices to rents



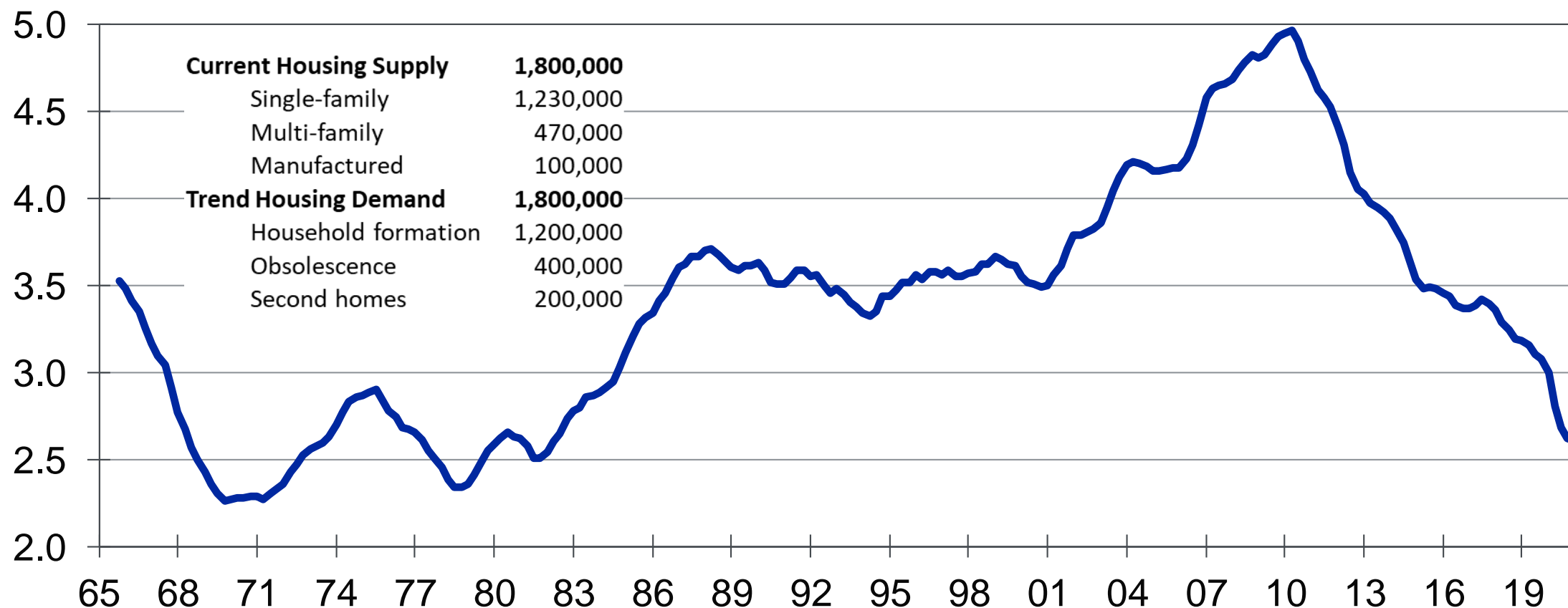
Sources: CoreLogic, REIS, Moody's Analytics

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Not a Bubble

Housing Is in Short Supply...

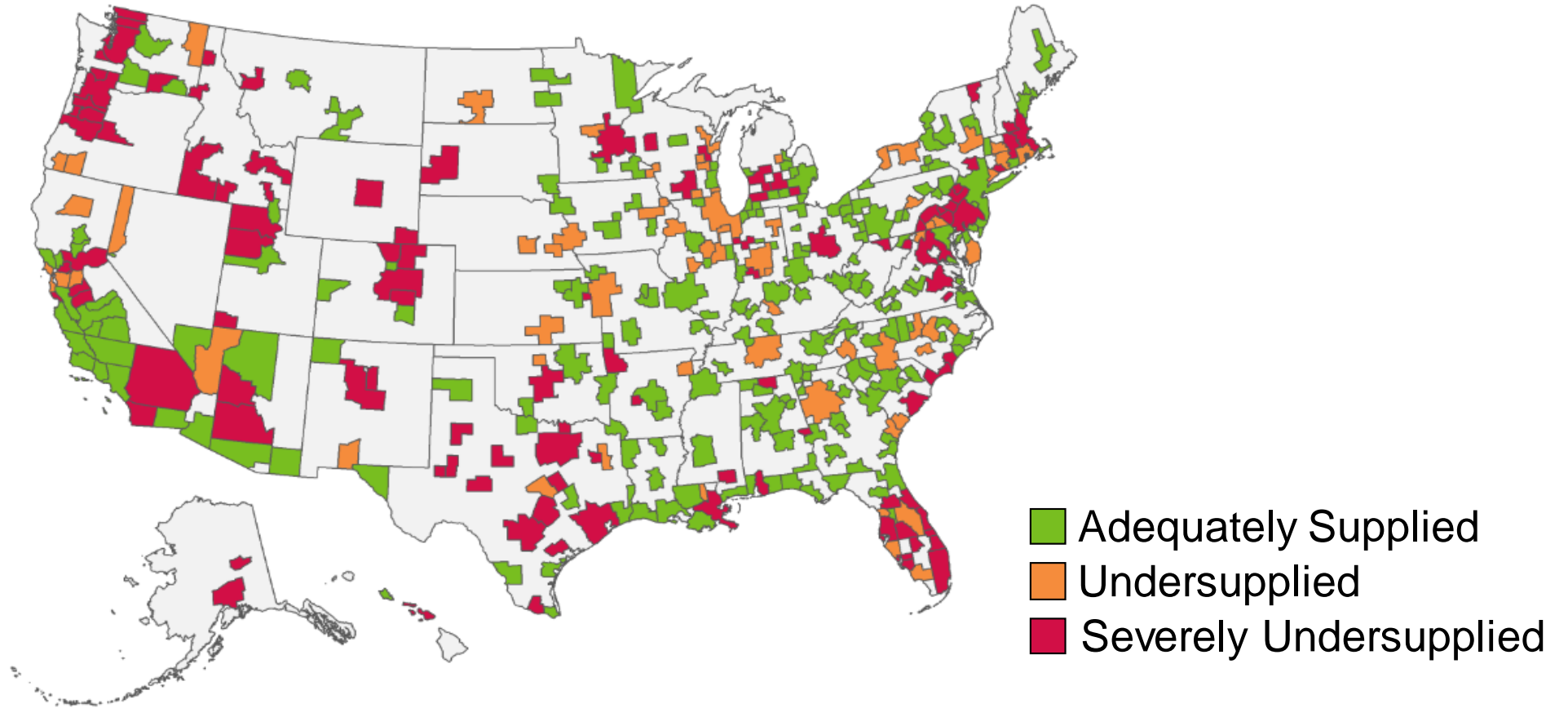
Vacancy rate, homes for sale and rent, 4 qtr MA, %



Sources: Census Bureau, Moody's Analytics

...Across Much Of the Country

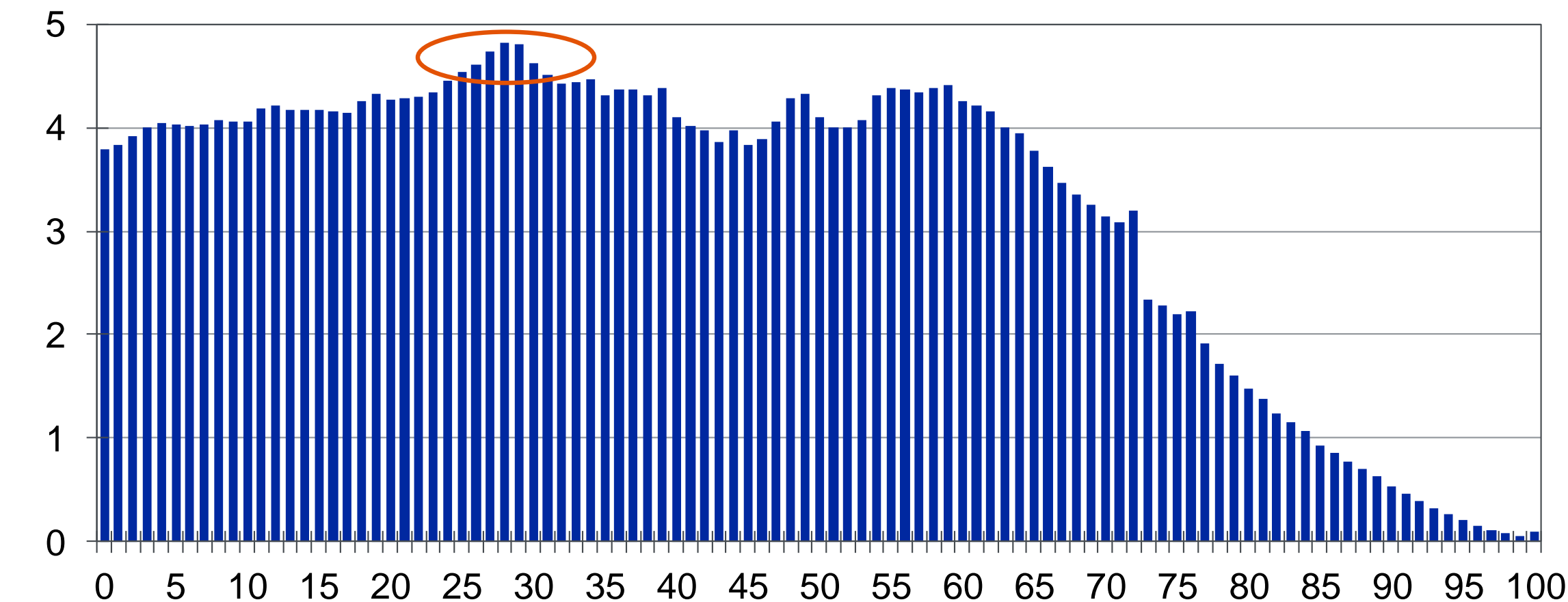
Based on 2019 vacancy rate vs historical average, %



Sources: Census Bureau, Moody's Analytics

Pent-up Demand As Millennials Enter Their 30s

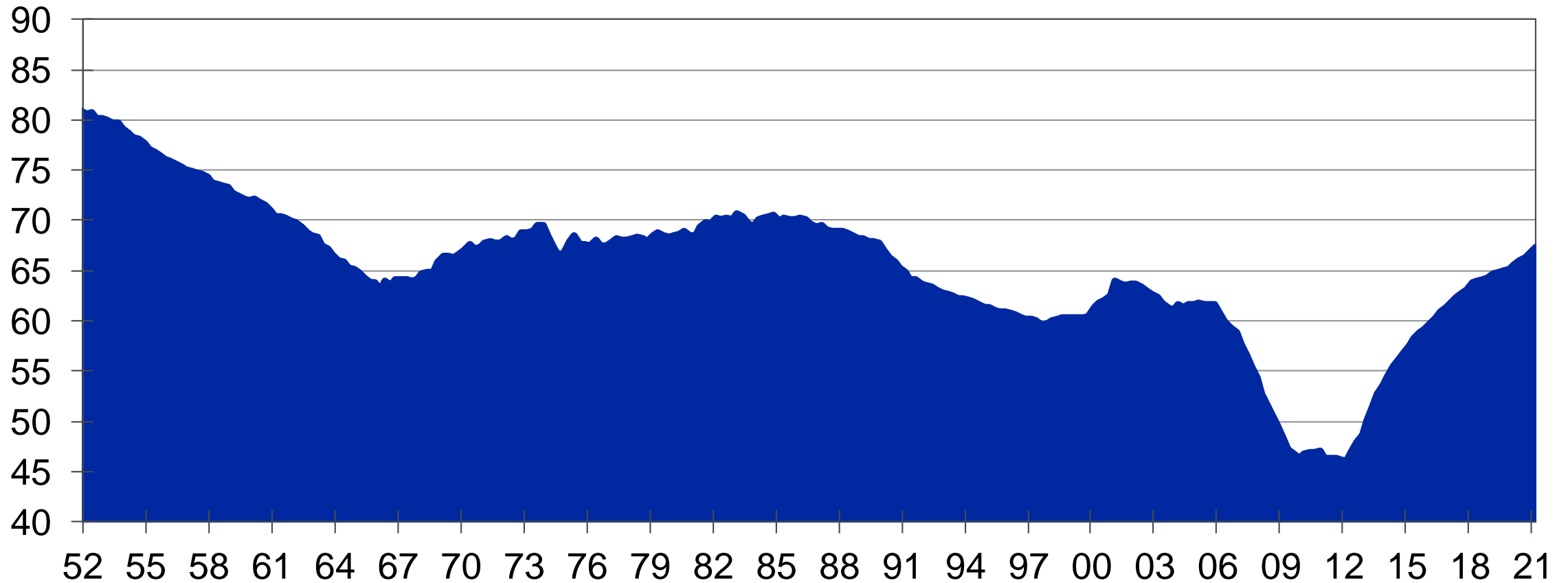
Population estimate by single age cohort for 2019, mil



Sources: Census Bureau, Moody's Analytics

Homeowners Have A Lot of Equity

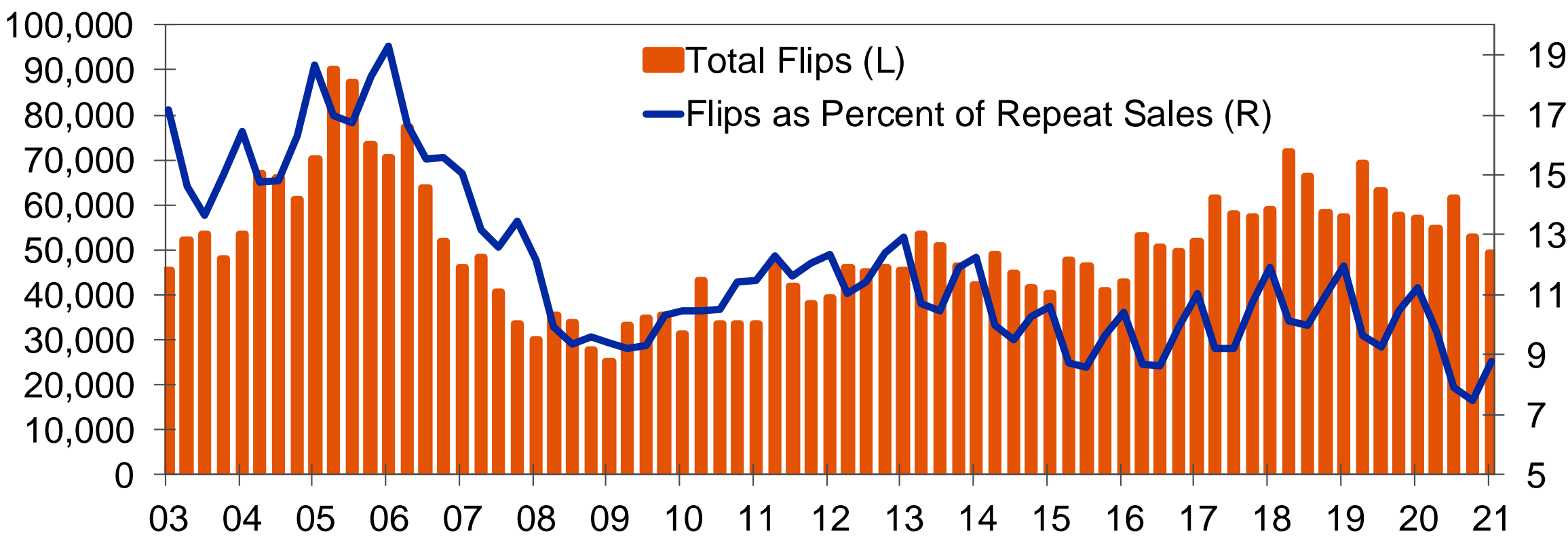
Owners' equity, % of household real estate



Sources: Federal Reserve, Moody's Analytics

Home Flips Remain Low...

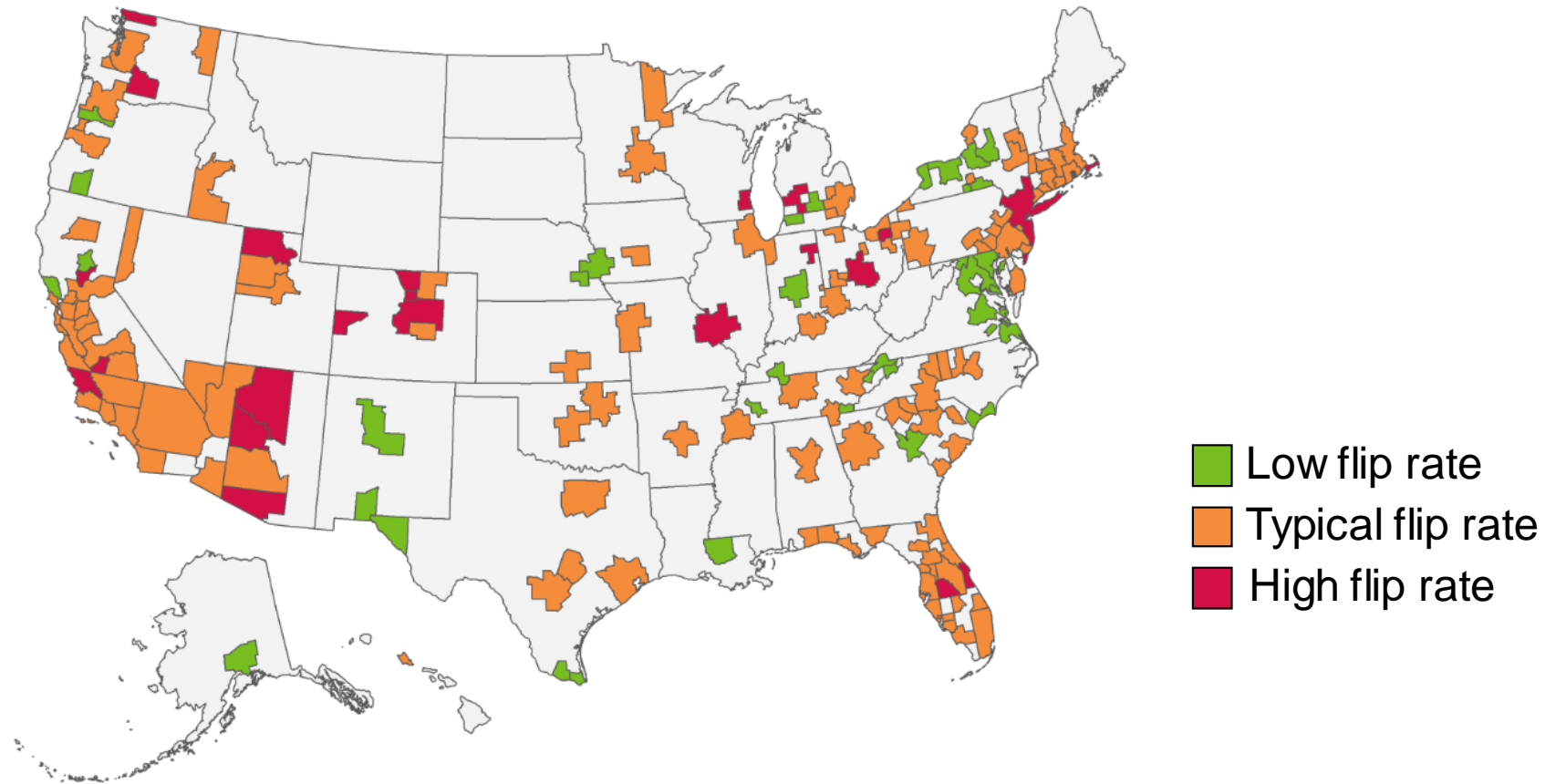
Total number of home flips (L), % of total sales (R)



Source: Moody's Analytics Calculated

...In Most Markets

Flips as a % of sales compared to long-run average



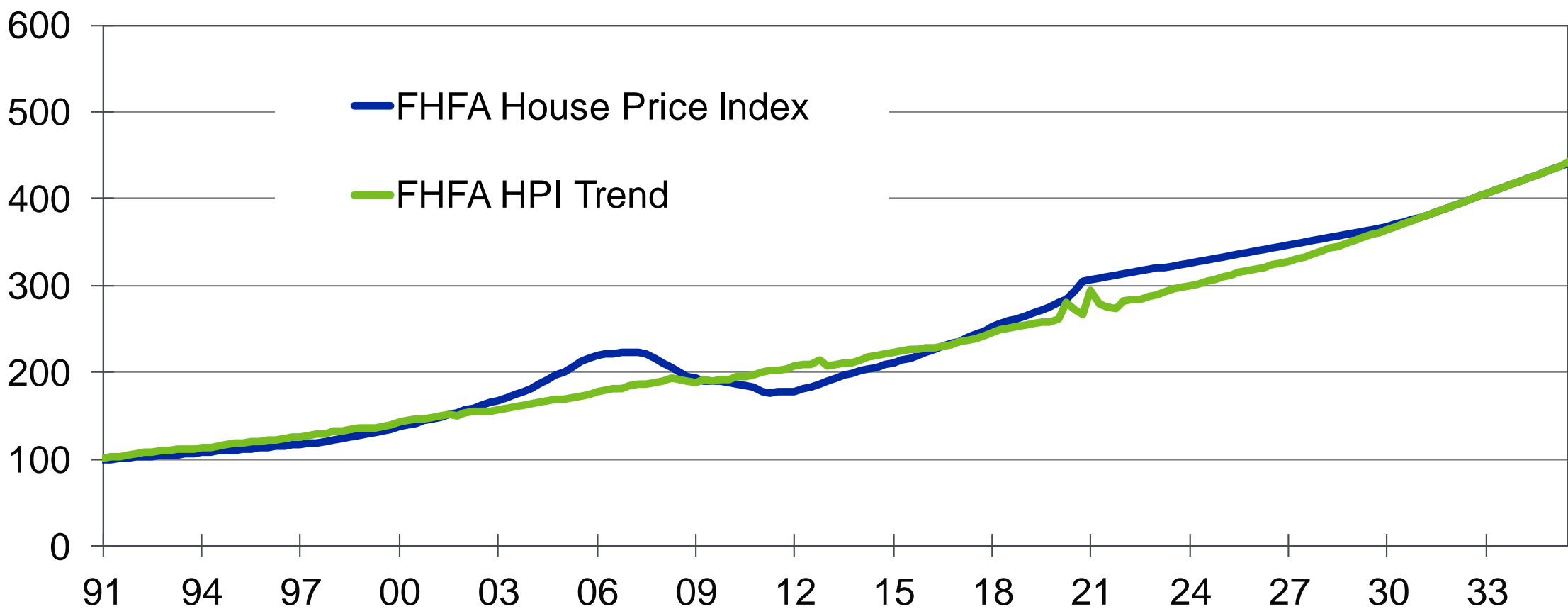
Source: Moody's Analytics Calculated

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Sanguine (But Risky) Outlook

Modest HPI Growth, But No Price Declines...

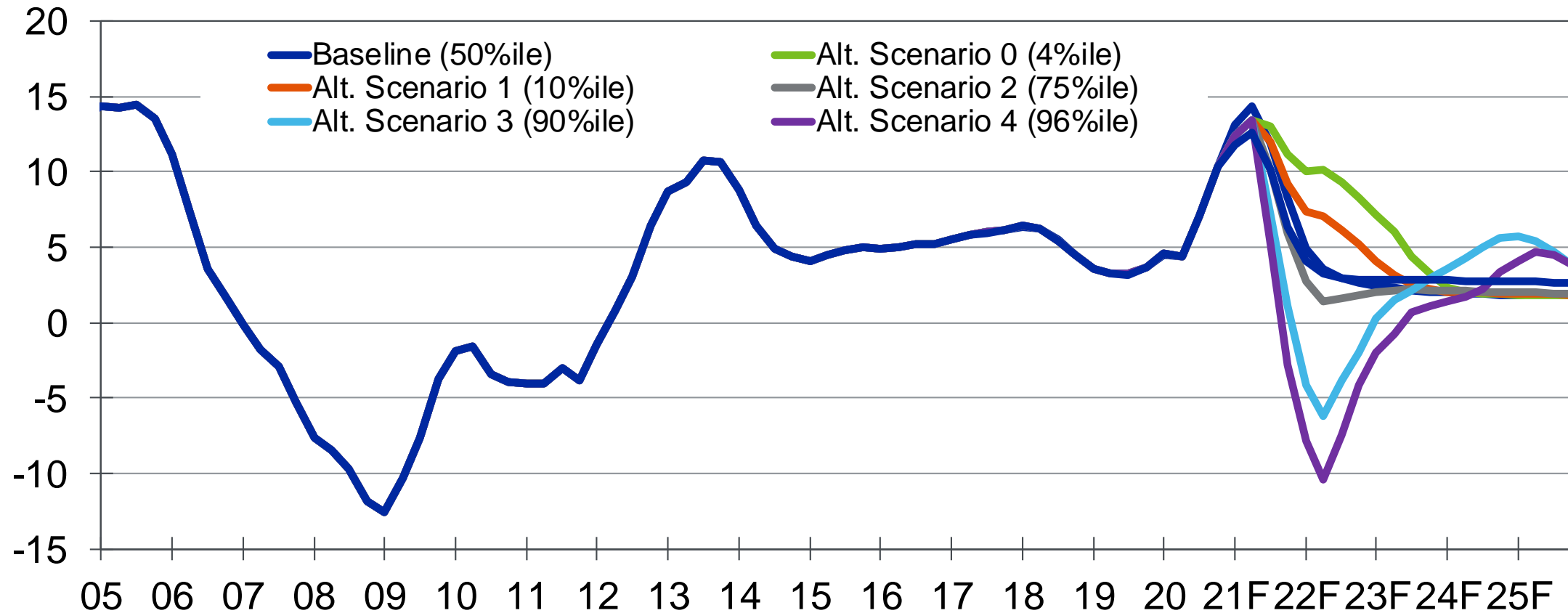
FHFA Purchase-only House Price Index and Trend, 100=1991Q1



Sources: FHFA, Moody's Analytics

...But There Are Alternative Scenarios

Case-Shiller home price index, % year ago



Sources: Corelogic, Moody's Analytics



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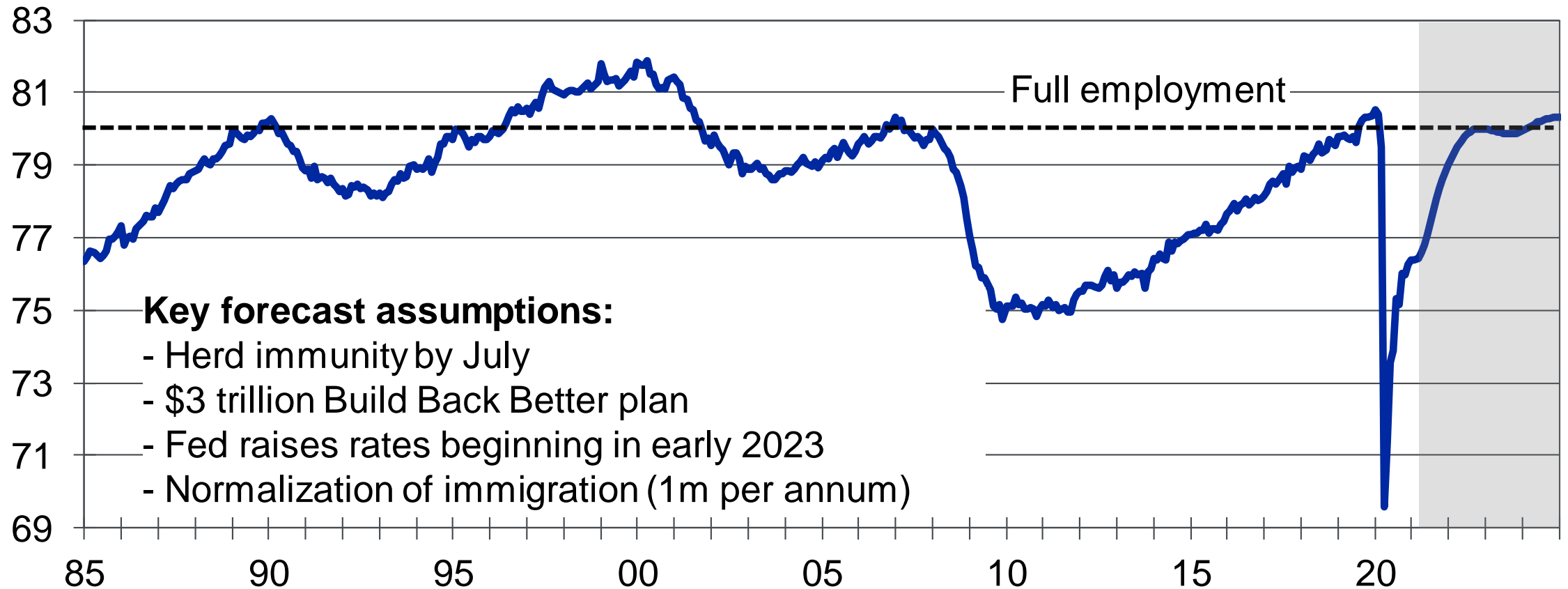
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V-Shaped Recovery

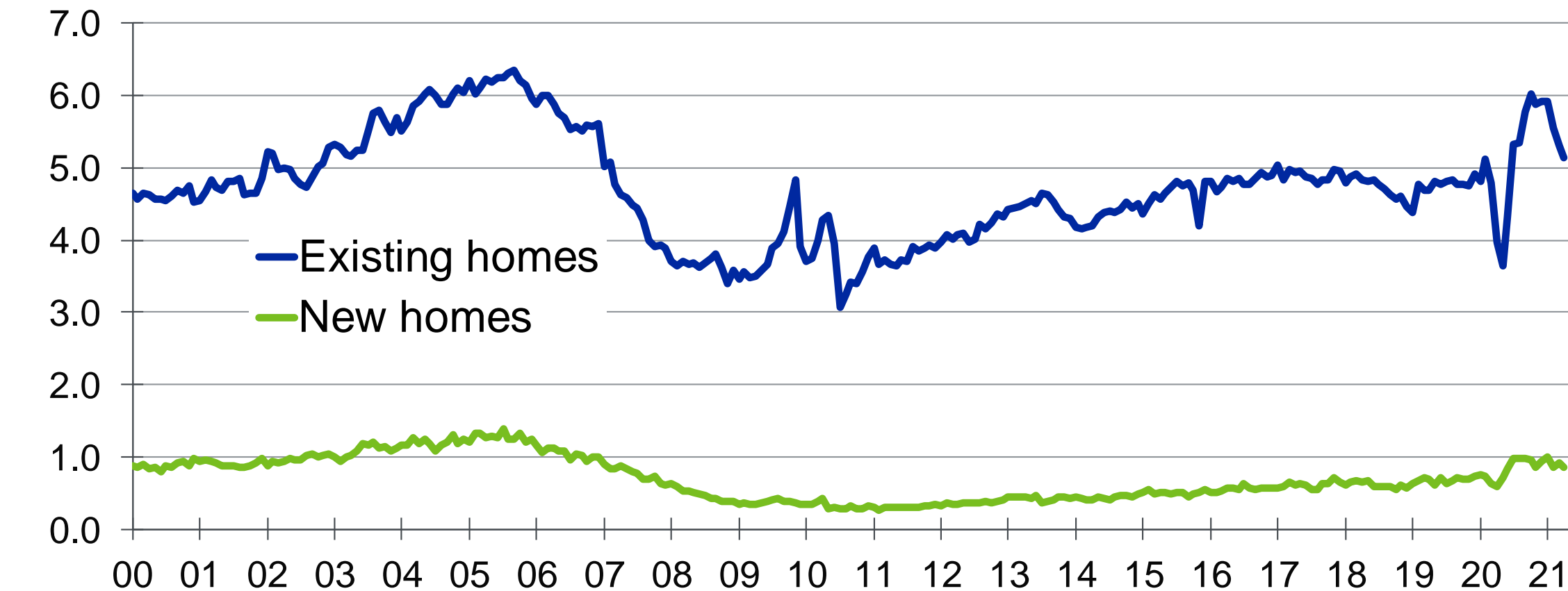
Prime age employment-population ratio, %



Sources: BLS, Moody's Analytics

Robust Housing Demand

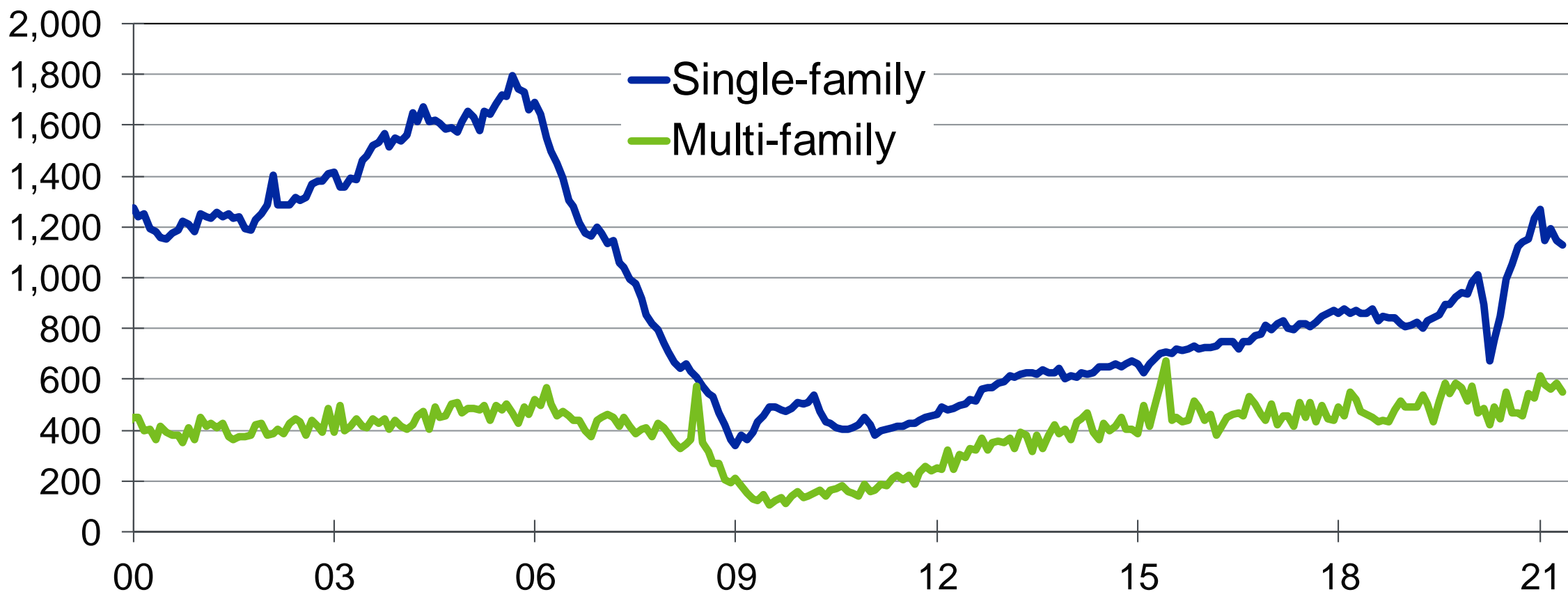
Existing and new single-family home sales, mil, SAAR



Sources: NAR, Moody's Analytics

Homebuilding Picks-Up

Single-family and multi-family residential housing permits, mil



Sources: NAR, Moody's Analytics