FIXED INCOME ANALYSTS SOCIETY, INC.

2022 Housing Panel

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Moderator: Taylor Riggs, CFA, Bloomberg Television's "The Close"

Panelists:

- Laurie Goodman, Institute Fellow at the Urban Institute
- Ed Pinto, AEI Senior Fellow and Director, AEI Housing Center
- Mark M. Zandi, Ph.D., Chief Economist of Moody's Analytics

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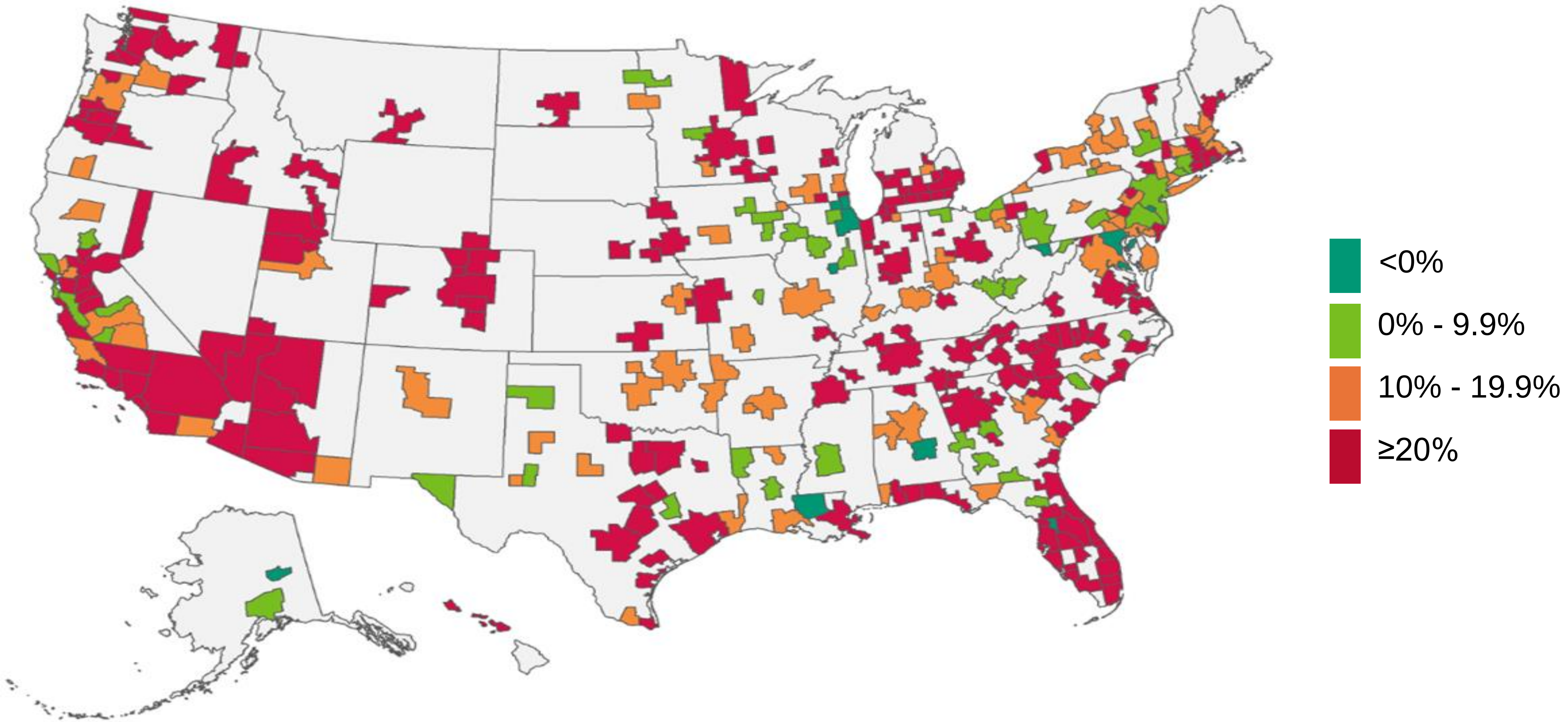
Housing is Overvalued…

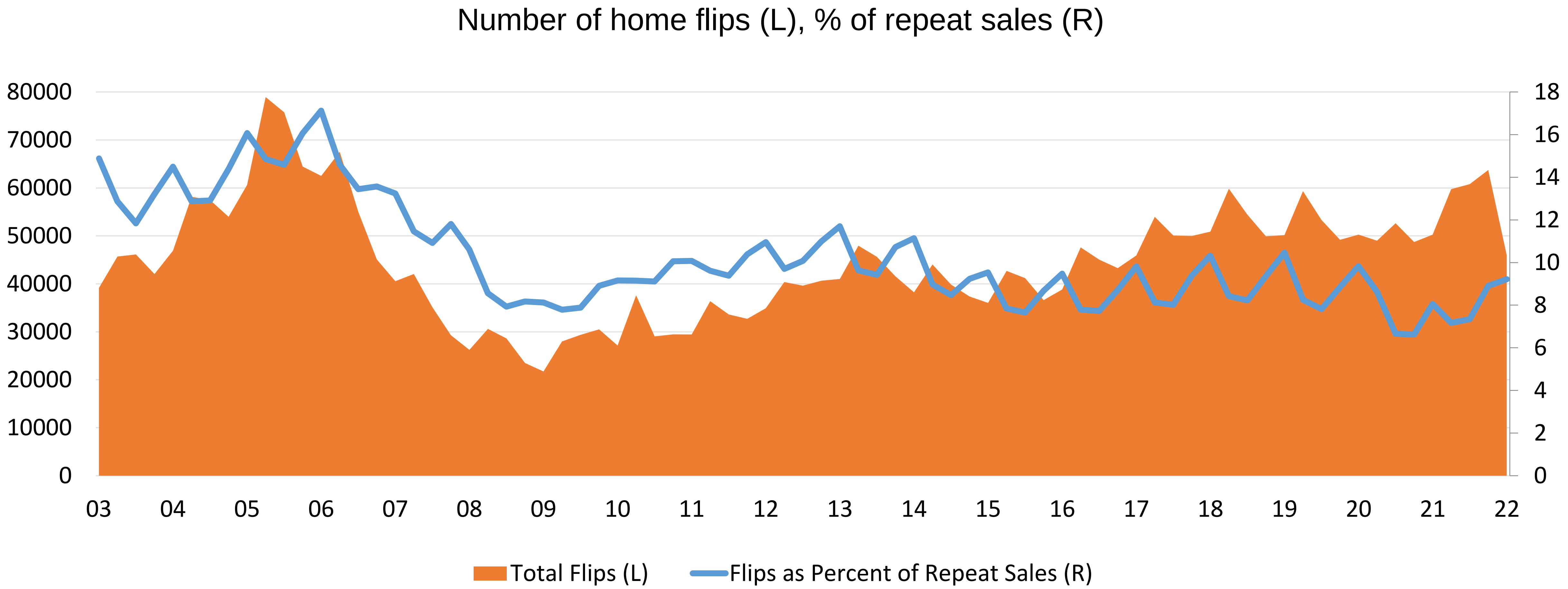
House prices as a % of estimated fair value, 2022q1



Source: Moody's Analytics

Source: Mark Zandi, Moody's Analytics

...But Not a Bubble



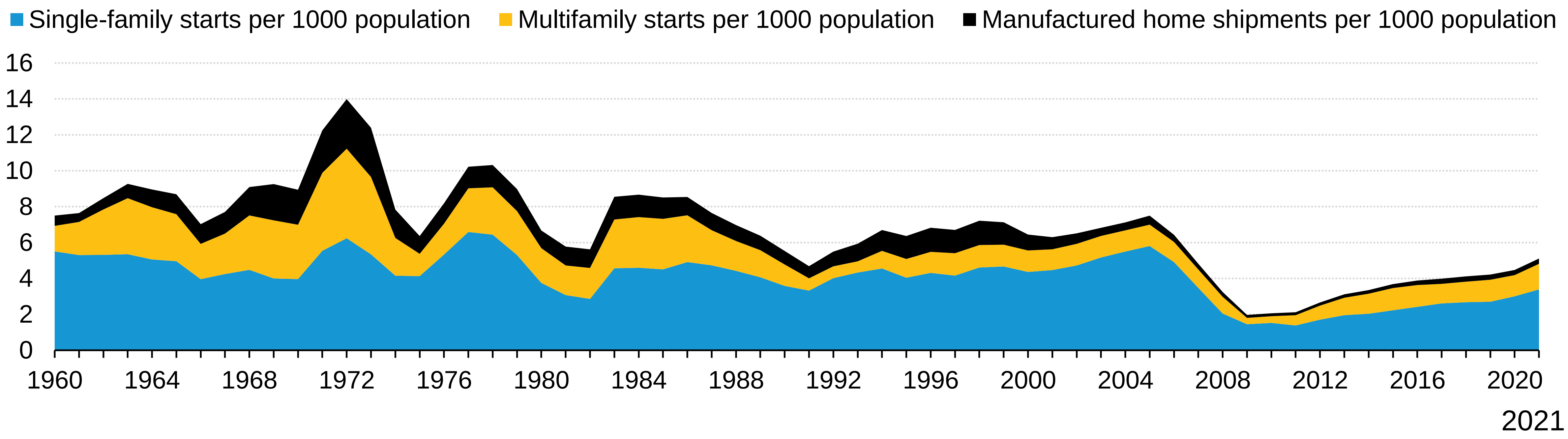
Source: Moody's Analytics

Source: Mark Zandi, Moody's Analytics

Supply Shortage

- Freddie Mac, 2021: Shortage of 3.8 million units
- NAR: 5.5 million fewer units built from 2001-2020 versus 3 prior decade per annum average

Population-Adjusted Housing Production



Source: Urban Institute calculations of US Census Bureau data.

Source: Laurie Goodman, Urban Institute

Steps that Can Be Taken to Correct the Housing Supply Shortage

Housing subsidies promote political profit seeking, which, in a tight market, get capitalized into higher prices & rents.

Unnecessarily strict zoning and land use regulations create an artificial shortage of economically developable land.

Implement Light Touch Density (LTD) & Walkable Oriented Development (WOD to create and repurpose economically developable land, thereby expanding housing opportunities for working-class families of all races & ethnicities.

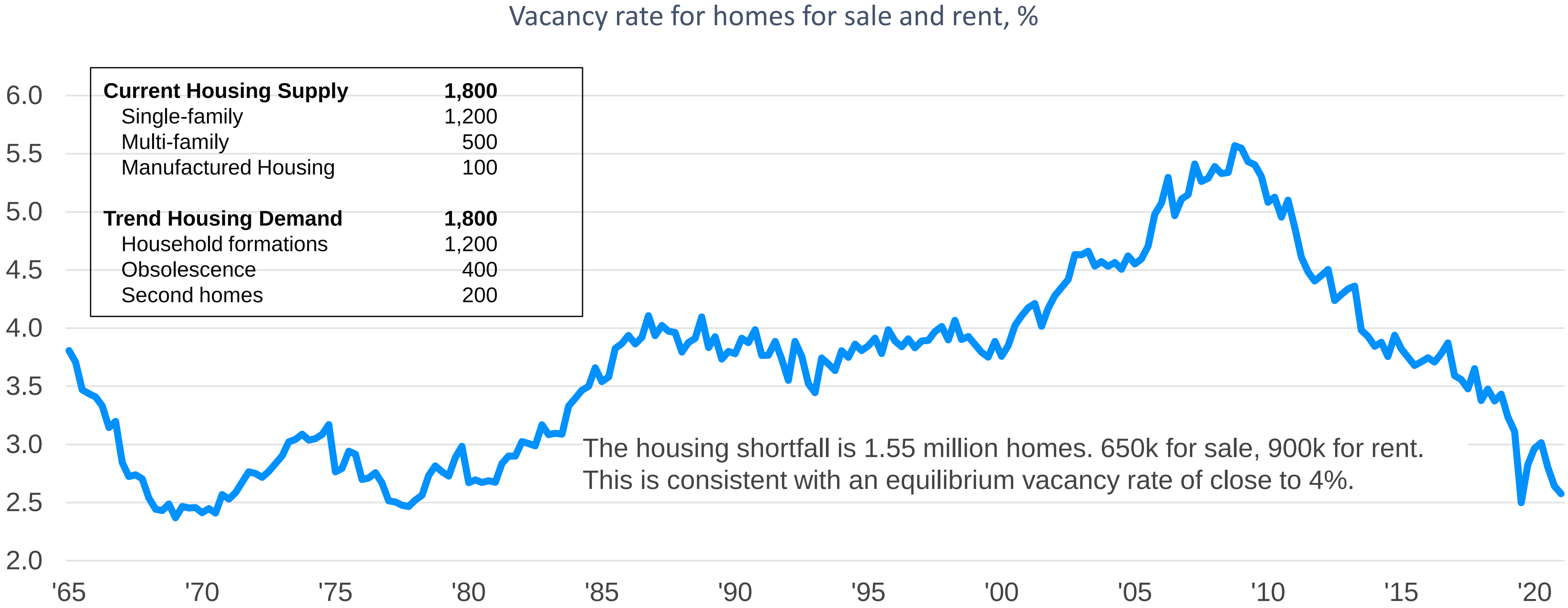
- LTD (increase by-right density from 3-5 units/acre to 8-20 units/acre)
    - ADUs
    - 1-4 unit structures
    - Row and townhouses
    - Lot splitting
- WOD (increase density to 8-40 units/acre & utilize existing infrastructure & amenities)
- Market based inclusionary zoning: allow 4 residential units in any zone in which housing is permitted to be considered ministerially, without discretionary review or hearing.
- State and local investment in infrastructure improvements to make land ready for development and to improve walkability for green and brown field development.

Steps that Can Be Taken to Correct the Housing Supply Shortage (con't)

- Assure sufficient land is available and zoned for LTD and WOD.
    - Better not to, but If urban growth boundaries are used, they should project population and employment growth for the next 20 years.
        - To avoid merely driving the price of land up, sufficient land to support 20 years of growth must be consistently available.
        - The boundary must be periodically adjusted so as to assure that sufficient land is available to meet the needs of growth forecasts for rolling 20-year periods.
- These steps hit the sweet spot in adding supply near the middle, which allows market-driven filtering to work most effectively in adding new supply.
    - Let national builders & local builders know you're open for business in hitting sweet spot.

Source: Ed Pinto, AEI Senior Fellow and Director, AEI Housing Center

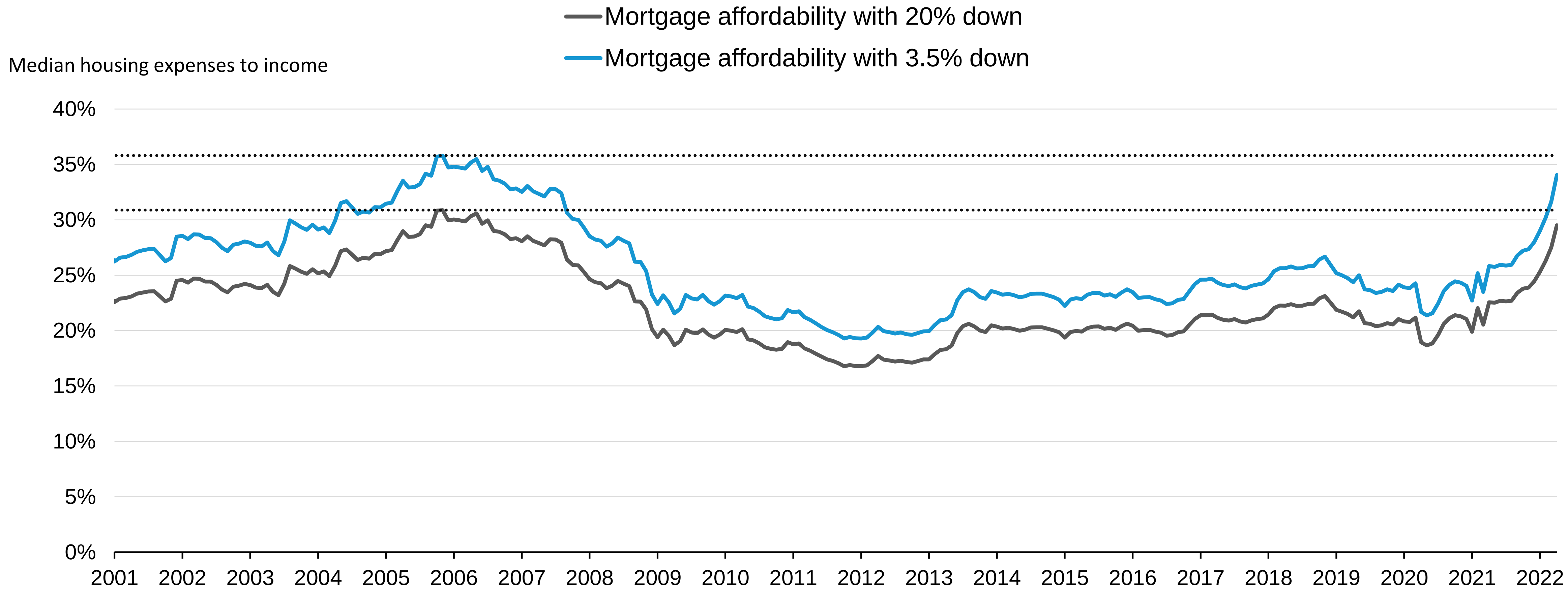
Severe Housing Shortage



Current Housing Supply	**1,800**
Single-family	1,200
Multi-family	500
Manufactured Housing	100
Trend Housing Demand	**1,800**
Household formations	1,200
Obsolescence	400
Second homes	200

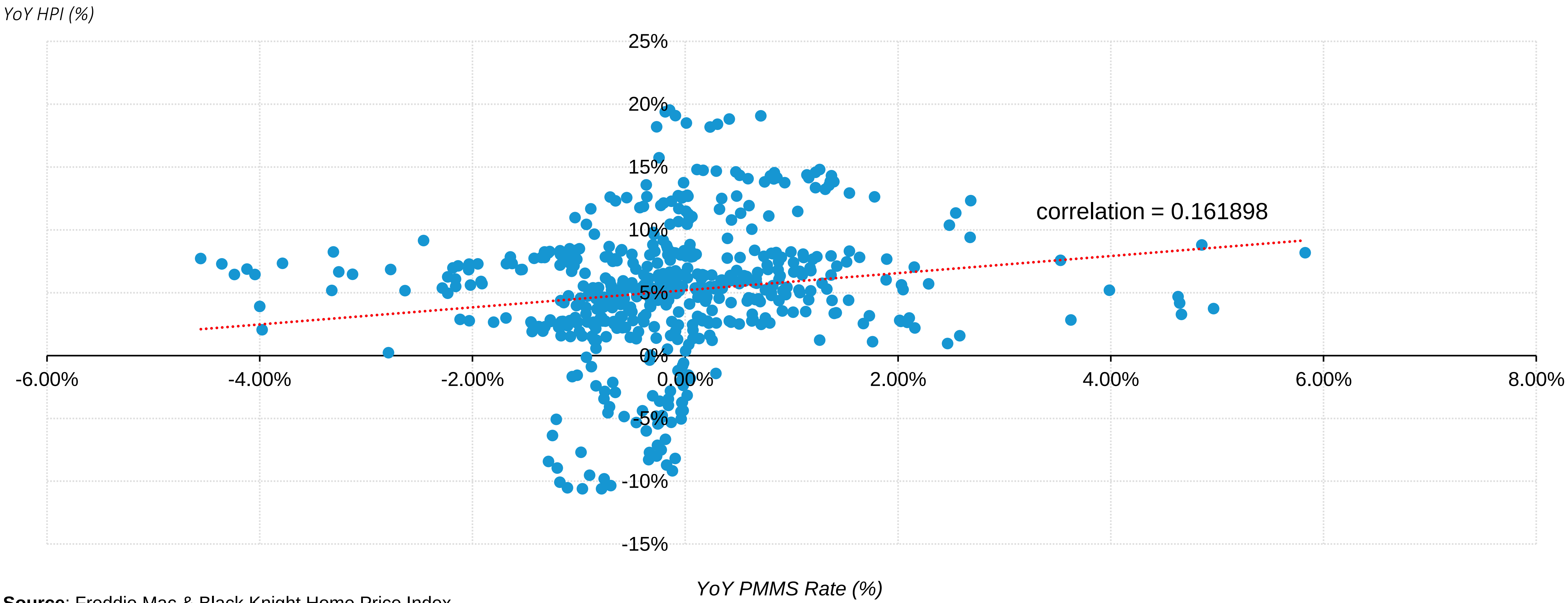
Sources: Census Bureau, Moody's Analytics

Rising Interest Rates and Higher Home Prices have negatively affected affordability



Source: Laurie Goodman, Urban Institute

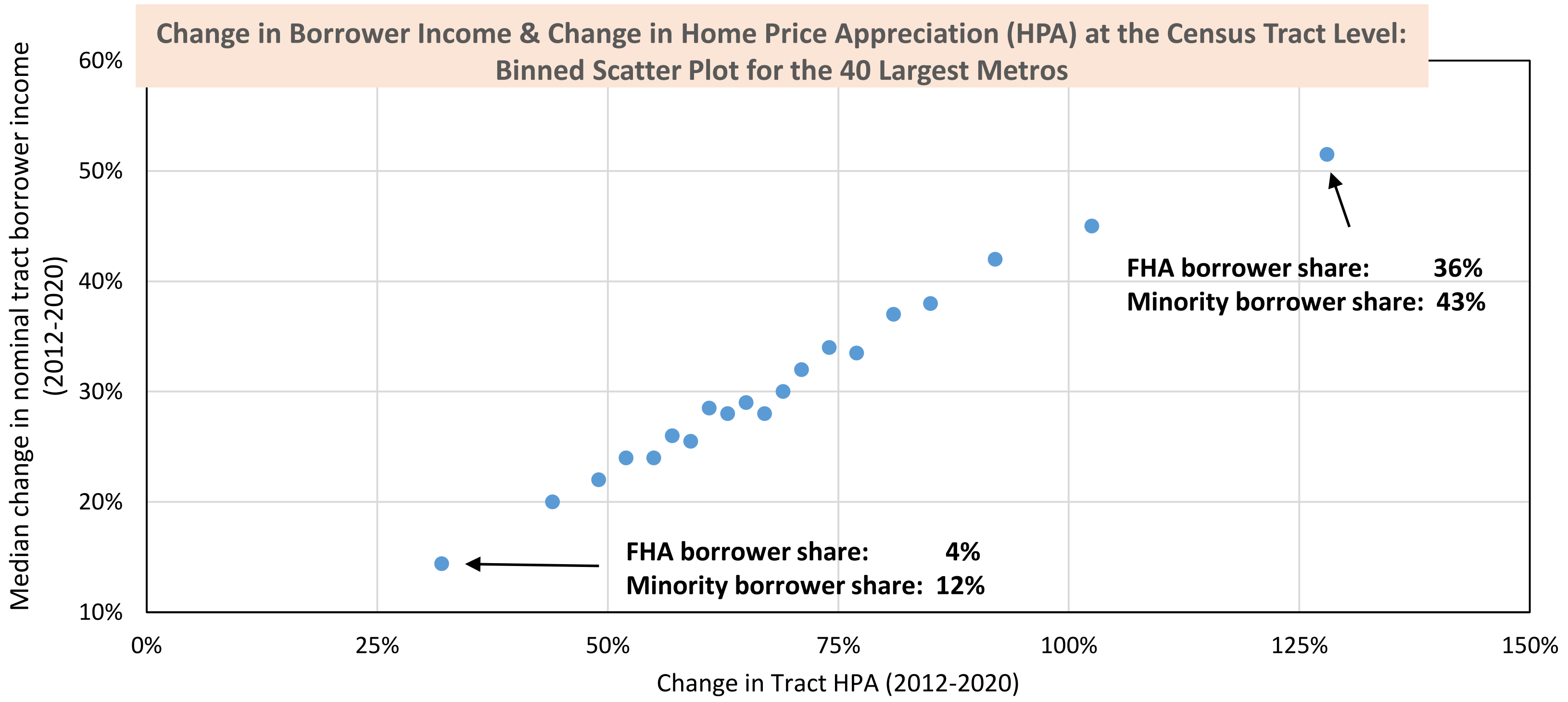
The relationship between changes in interest rates and changes in home prices is weak



Source: Freddie Mac & Black Knight Home Price Index

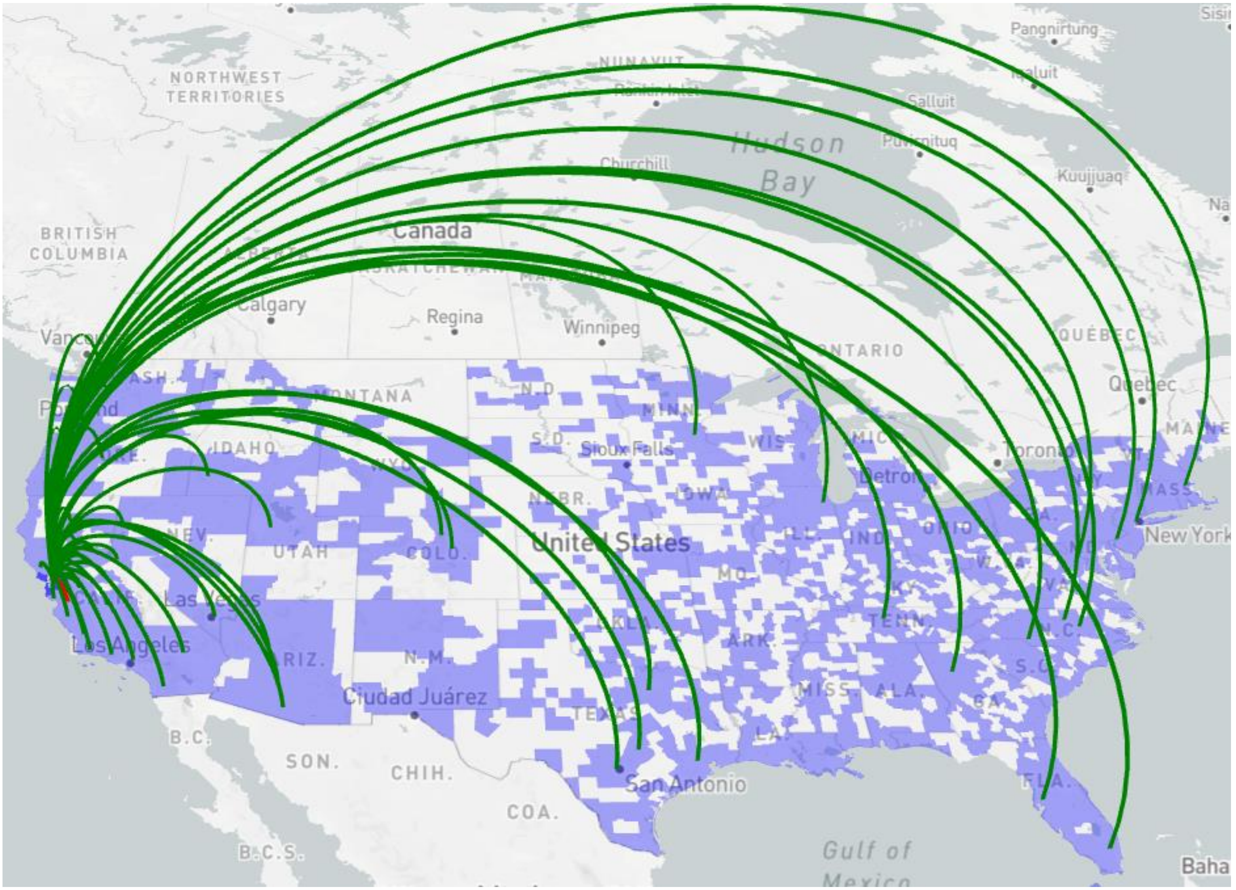
What Effect Has Rampant Home Price Appreciation Had on Affordability?

There is a tight correlation between change in tract home price appreciation (HPA) on the x-axis and median change in nominal tract borrower income from 2012 to 2020 on the y-axis (data limited to pre-pandemic). Tracts that experience the highest levels of HPA also experienced the highest borrower income growth. These tracts also have the highest share of FHA purchase loans (an indicator of a larger presence of lower income, first-time, and first-generation home buyers) and minority borrowers. This is indicative of the crowding out of low income and minority potential home buyers.



Note: Tracts are weighted by their respective loan counts. Binned scatter plot accounts for differences in metros. FHA and minority borrower shares are for 2020. HPA stands for constant-quality home price appreciation
Source: HMDA and AEI Housing Center, www.AEI.org/housing.

How has the home price differential between and within expensive metros (about 25% of the nation) and the rest of the country created a powerful arbitrage effect, one that is helping to power home price appreciation? How have zoning and land use regulations spawned this effect?



red=more expense, green = less expensive

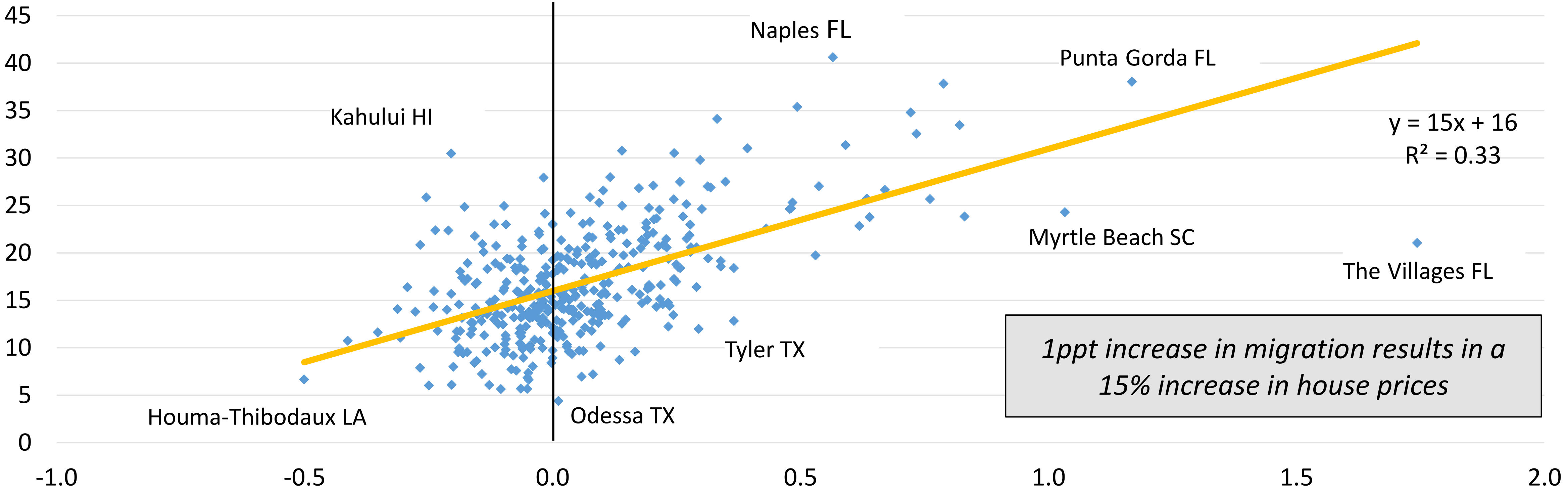
Here's what homes look like for people moving out of San Francisco, CA:

San Francisco, CA	27k Traced Moves
Sacramento, CA	4.0k Traced Moves
San Jose, CA	1.3k Traced Moves
Phoenix, AZ	1.2k Traced Moves
Los Angeles, CA	1.1k Traced Moves
Stockton, CA	1.1k Traced Moves
Portland, OR	1.0k Traced Moves
Vallejo, CA	990 Traced Moves
Santa Rosa, CA	950 Traced Moves
San Diego, CA	860 Traced Moves
Boise City, ID	750 Traced Moves
Reno, NV	740 Traced Moves
Las Vegas, NV	730 Traced Moves
Riverside_SB, CA	730 Traced Moves
Austin, TX	710 Traced Moves
Seattle, WA	690 Traced Moves
Dallas, TX	670 Traced Moves
Denver, CO	480 Traced Moves
Truckee, CA	430 Traced Moves

Source: Ed Pinto, AEI Senior Fellow and Director, AEI Housing Center

Remote Work Drives House Price Gain

Net migration as % of pop (x-axis) vs house price growth, % change year ago, 2022Q1



1ppt increase in migration results in a 15% increase in house prices

Sources: Equifax, Moody's Analytics

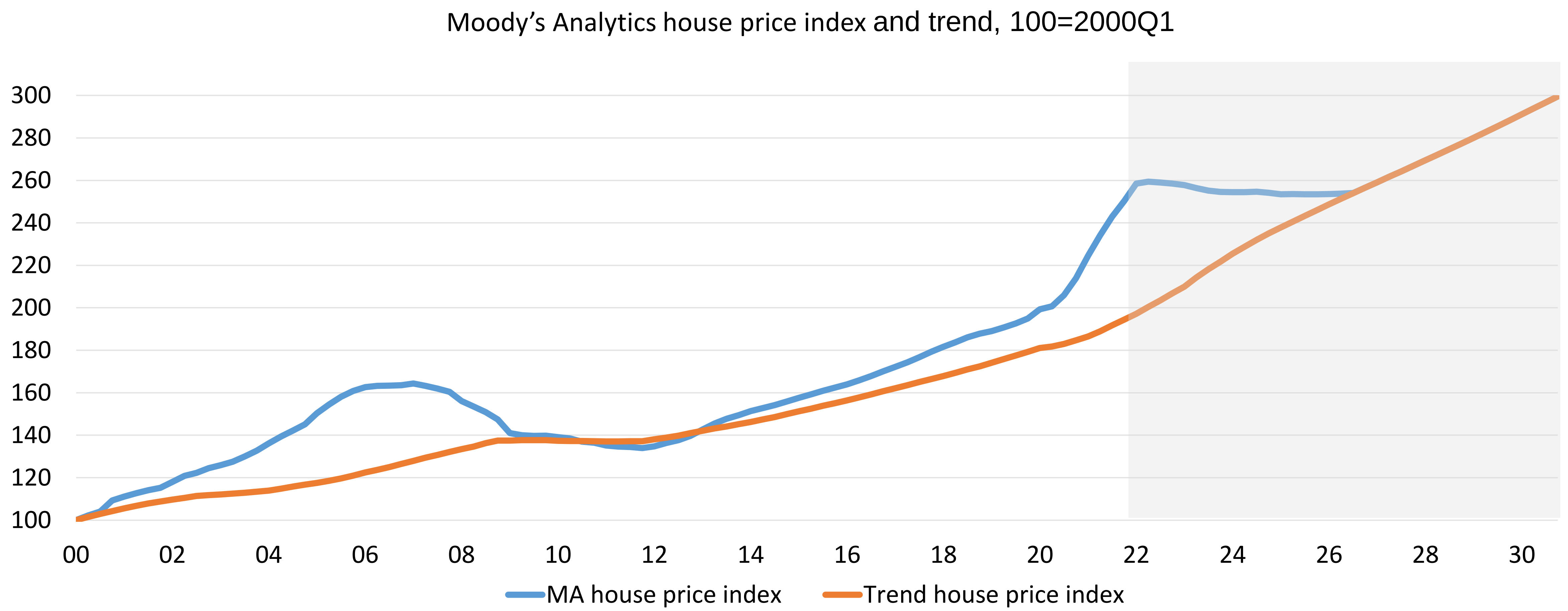
What Will Year-over-Year Home Price Appreciation Be for December 2022 and December 2023?

Are We in a Home Price Bubble?

- Based on Optimal Blue rate lock data, HPA is projected to remain in the mid-teens through May at 16% and moderate slightly in June and July 2022 to 14-15%.
- Relatively low rates (5.25% is historically low), along with supply constraints, a strong wealth effect from monetary stimulus, and the Work from Home revolution continue to fuel high HPA.
- Without more inventory or a mortgage rate of 6%, HPA (y-o-y) is expected to remain in the low- to mid-teens for the remainder of 2022, with December 2022 and 2023 (y-o-y) HPA expected to be 12% and 9%, respectively.
- Evidence does not support a price bubble, as there are a number of important differences this time vs last time.
    - Supply is as tight as it ever has been.
    - Inflation adjusted interest rates are still negative and inflation is reducing nominal HPAs.
    - Rents are also rising (which they did not do last time).
    - With work from home and arbitrage opportunities, higher income people have the choice to move to more affordable areas and bid up prices there, while still reducing housing costs.
    - Even with the FHA's embrace of riskier lending practices, the market is in much sounder shape now than it was leading up to 2008.
        - Our stressed Mortgage Default Rate index indicates that if the circumstances that led to the last home price bust were to repeat, the default rate today would be between 12% and 13%, compared to 36% at the height of the last crisis.
        - This is not to say that home prices might not decline in neighborhoods with high concentrations of FHA loans, cities with weak growth prospects, and high priced areas suffering from out migration. This would be a normal correction, not evidence of a bubble.

Source: Ed Pinto, AEI Senior Fellow and Director, AEI Housing Center

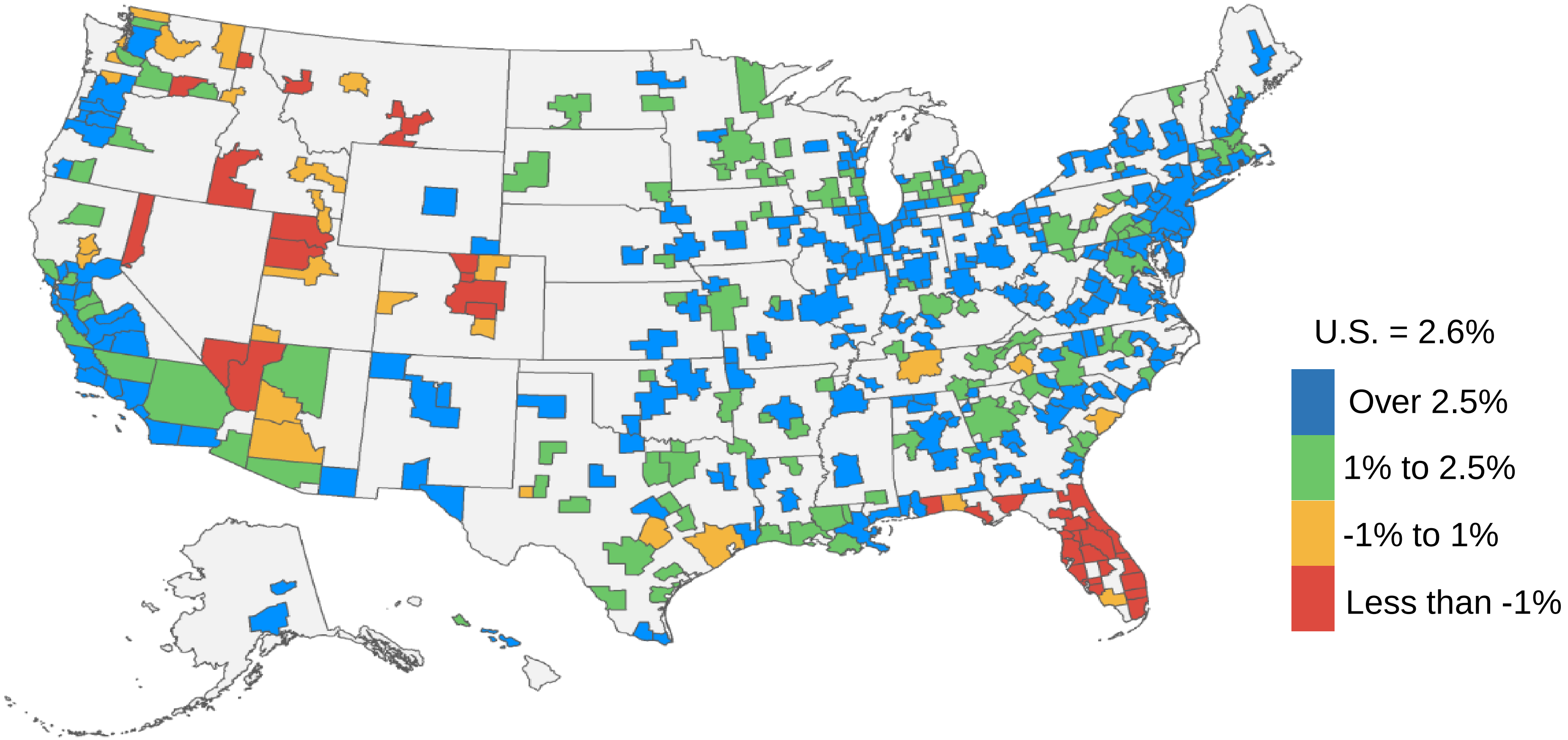
National House Prices Set To Go Sideways…



Sources: Moody's Analytics

…But With House Price Declines in Some Areas

Moody's Analytics house price index, avg annual growth, %, 2022Q1-2024Q1



Sources: Moody's Analytics

Source: Mark Zandi, Moody's Analytics

US Housing Stock Distribution, by Year Built

	Number of units	Share of housing stock
2010 or later	10,008,104	7.2%
2000 to 2009	18,434,989	13.2%
1980 to 1999	37,725,172	27.0%
1960 to 1979	35,536,349	25.4%
1950 to 1959	20,762,454	14.9%
1939 or earlier	17,219,141	12.3%
Total	**139,686,209**	**100.0%**

Source: 2019 American Community Survey.

Potential Number of New Affordable Units Created or Preserved

Recommendation	Additional units created per year	Thought process
Increased production of manufactured housing	70,000	From 1977, when the HUD manufactured housing code went into effect, until 1994, when the market began to overheat, 240,000 manufactured homes were shipped per year; today, that number is less than 100,000 homes. Increasing production to 170,000 homes (halfway between 100,000 and 240,000) in the face of a larger population and the fact that manufactured housing is now a better product is a conservative goal.
Increased ADU construction	233,000	There are 1.4 million ADUs and 85.6 million detached single-family homes in the US. That is, 1.6 percent of homes have an ADU. Increasing this share to 3 percent over the next five years will create an additional 1.17 million ADUs over five years, or 233,000 per year.
Increased home preservation	105,000	As the housing stock ages, obsolescence will become a bigger issue. If we slow obsolescence by 0.1 percent per year on the 104.7 million one-to-four-unit single-family stock, 105,000 units will be "saved" annually.
Additional affordable units preserved or created per year relative to today	408,000	

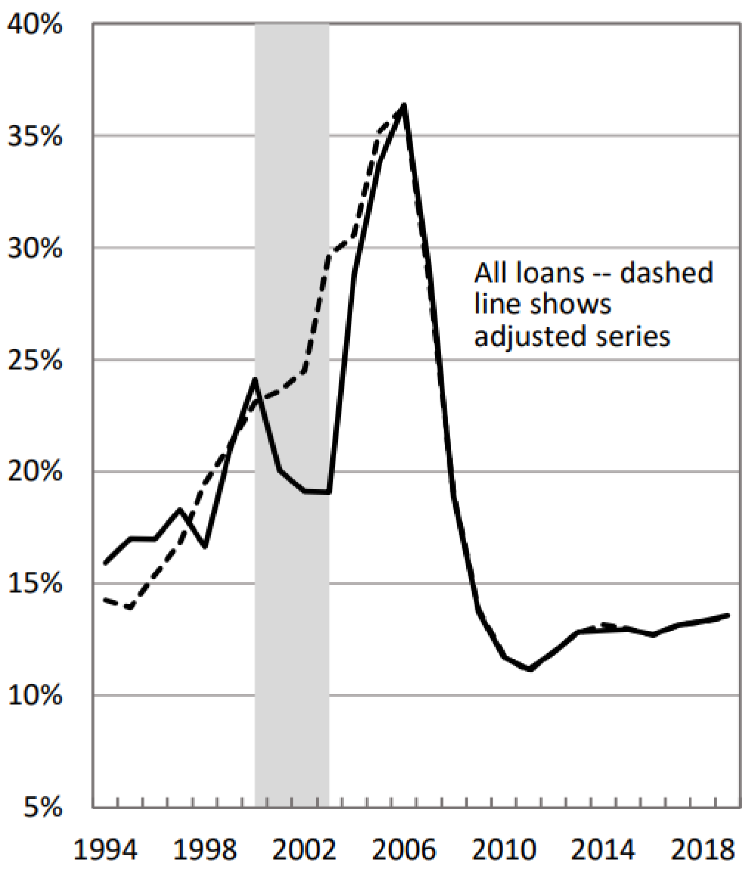
Source: Urban Institute calculations.
Note: ADU estimate from Sam Khater and Kristine Yao, "Granny Flats, Garage Apartments, In-Law Suites: Identifying Accessory Dwelling Units from Real Estate Listing Descriptions Using Text Mining" (McLean, VA: Freddie Mac, 2020).

What Is the Outlook for Mortgage Performance?
We Can Look to the Stressed Mortgage Default Rate for an Answer

A Quarter Century of Mortgage Risk covering 1994-2018 is a seminal work done in collaboration between the FHFA and the Housing Center's Senior Adviser Steve Oliner (and AEI Adjunct Scholar Morris Davis). It will improve researchers, policymakers, and the public's understanding of how mortgage risk has evolved from the early 1990s to the present and the role played in the housing boom, subsequent bust, and the 2008 recession. It will also help in gauging imbedded mortgage risk going forward.

The authors' use a comprehensive dataset of more than 200 million purchase-money and refinance mortgages from 1990 to 2019 to "evaluate a common held view that the early 2000s represent a normal period in the mortgage market, a benchmark by which to assess whether lending standards in other periods are loose or tight." The study documents that mortgage risk started accumulating in the mid-1990s and continued until the peak was reached in 2006-2007. Previous research could not identify the fact that a refinance boom from 2000-2003 masked the mortgage risk accumulation.

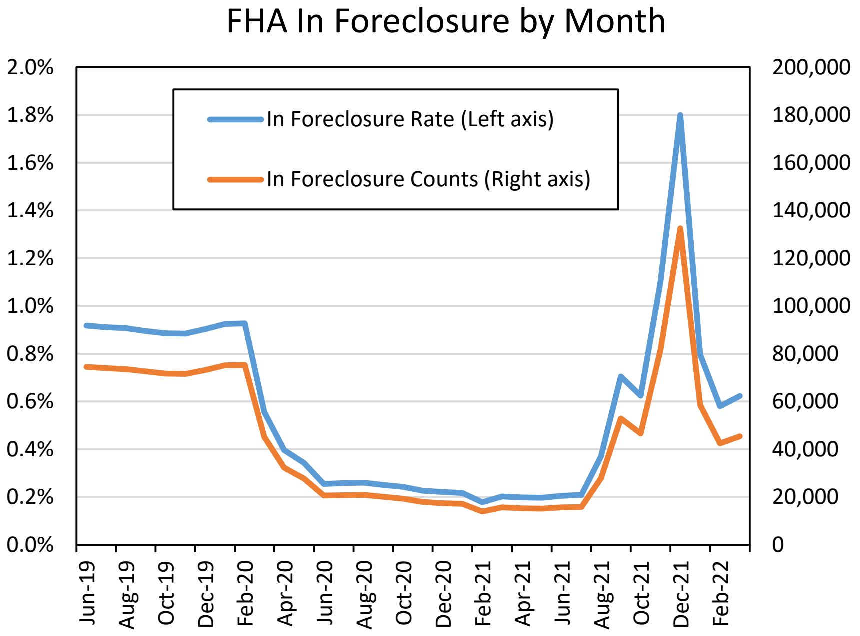
The size and scope of the expanded dataset is unprecedented in completeness, accuracy and comprehensive historical information on mortgage risk. The paper is available here.



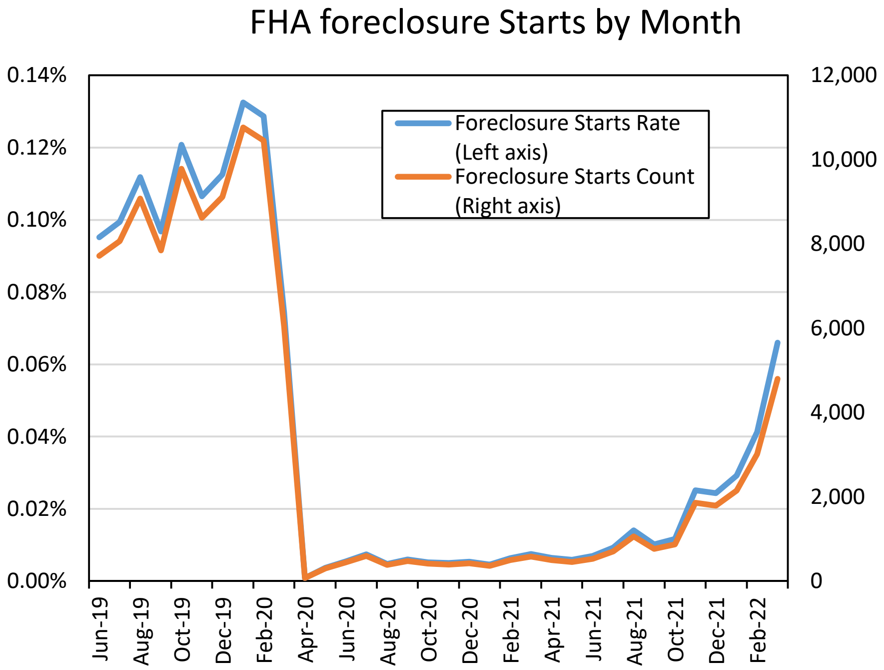
Source: FHFA and AEI Housing Center, www.AEI.org/housing.

Are We Out the Pandemic Woods?

After end of the foreclosure moratorium on July 31, 2021, FHA's in foreclosure rates and counts initially spiked and peaked in December 2021, but have now receded again. FHA's in foreclosure count for March 2022 was 45,000 homes, below pre-pandemic levels of about 75,000 (left panel). Foreclosure start rates and counts are also rising, but they are far from pre-pandemic levels. The current level of about 5,000 per month compares to 10,000 per month or 50% of the count pre-pandemic (right panel).



Source: FHA Single Loan Performance Trends, FHA Neighborhood Watch, and AEI Housing Center



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