

APOLLO

US Housing Outlook: Expansion continues
Higher mortgage rates weighing on demand. But housing inventory remains low, wage growth is strong, and stock prices are high.

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Apollo Global Management

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Unless otherwise noted, information as of November 2024

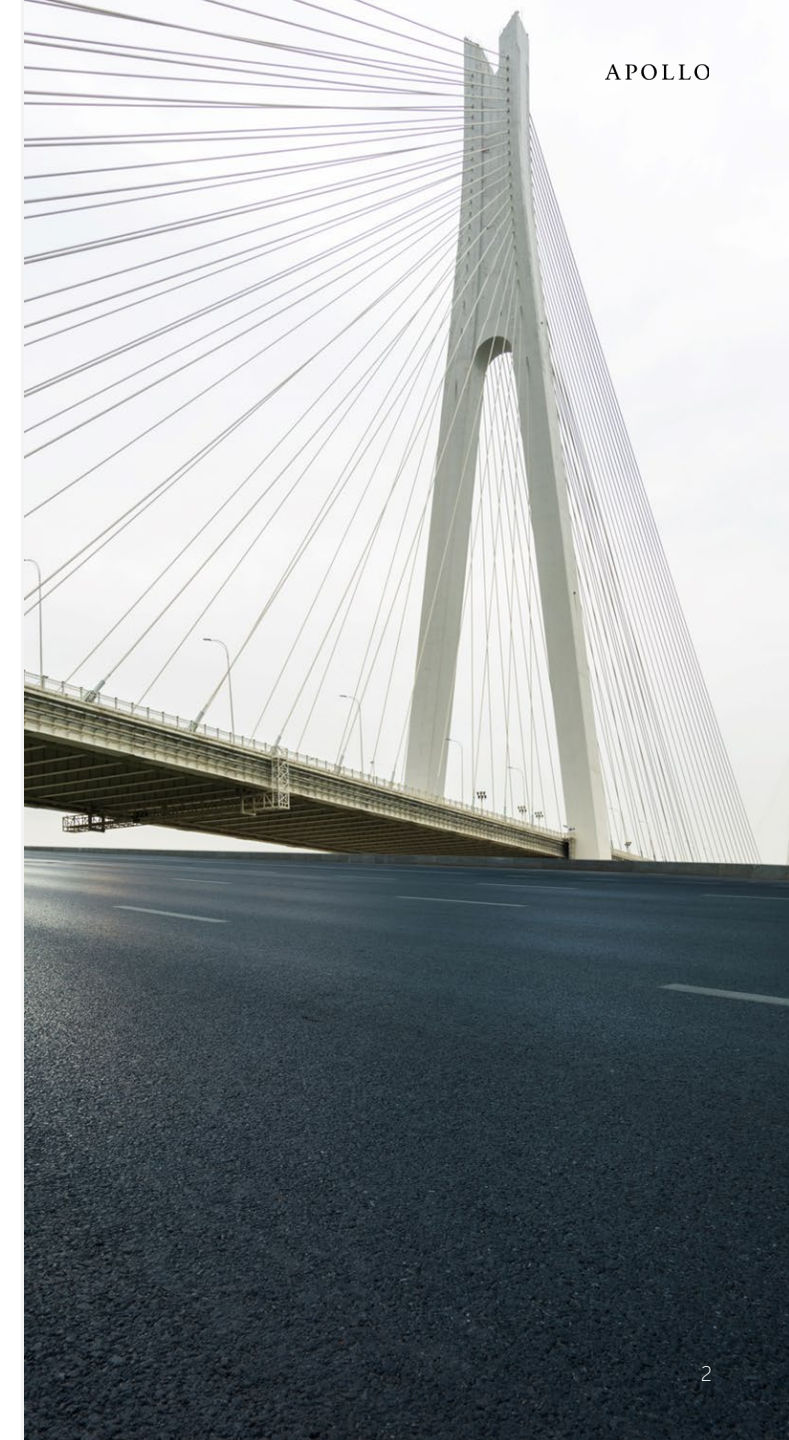
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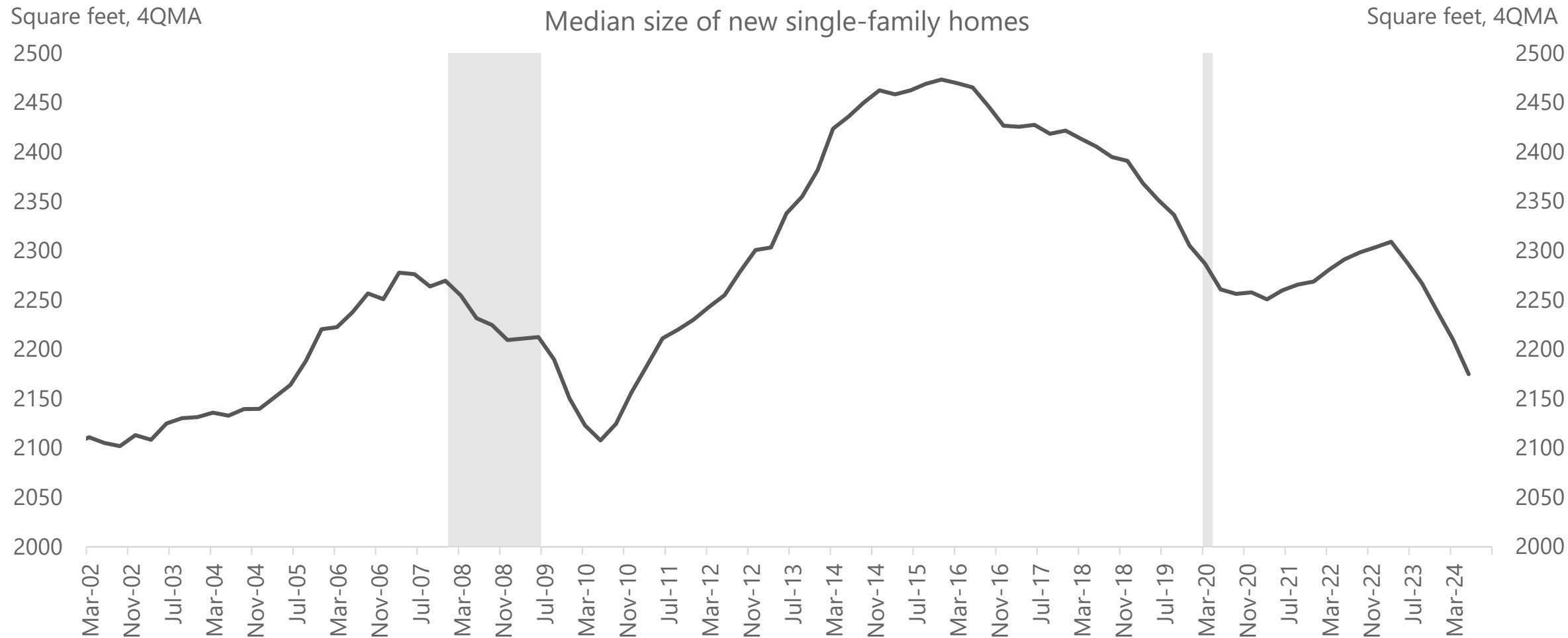


10 facts about the US housing market

1. US homes are getting smaller: The size of new homes being built has declined by 12% since 2016
2. The median age of all homebuyers is now 49 years old, up from 31 in 1981
3. Our home price model predicts that house prices will increase 10.8% over the coming year
4. 40% of US homes don't have a mortgage
5. The average number of homes sold per real estate agent every year is 21, down from 54 in 2004
6. Households' equity in real estate is at a record-high 73% of housing values
7. A record-high 36% of Americans say they would rent if they were going to move
8. More than half of all mortgages outstanding have an interest rate below 4%
9. 95% of mortgages outstanding are 30-year fixed rate
10. 63% of all mortgages outstanding were issued after 2018

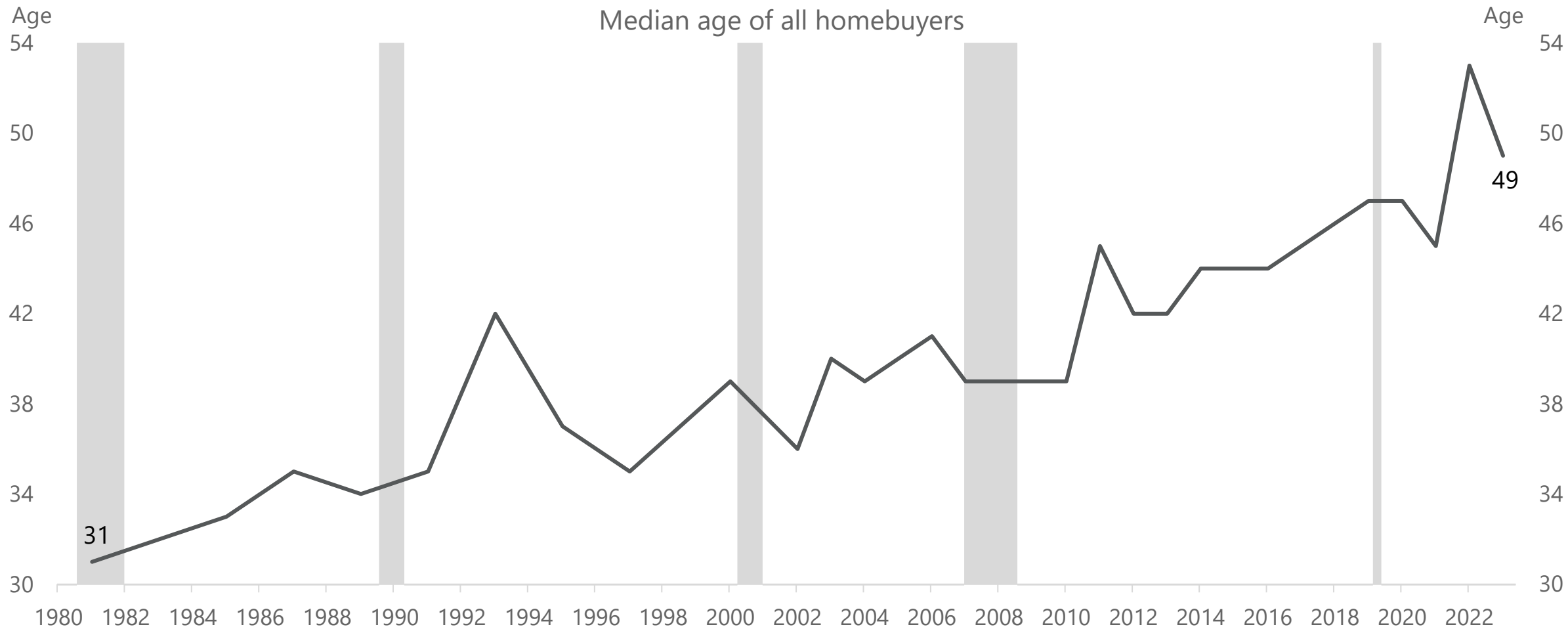
Overview

US homes are getting smaller: Median size of new single-family homes declining

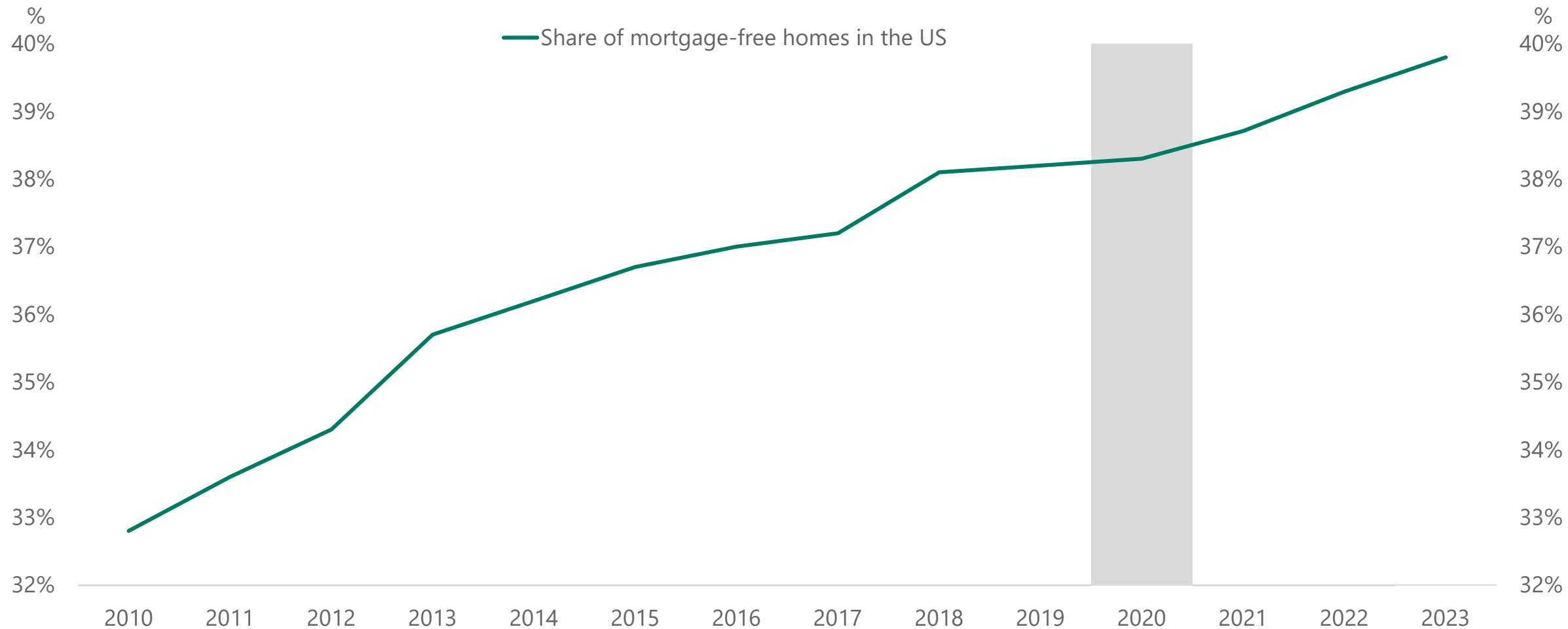


Source: Census Bureau, Haver Analytics, Apollo Chief Economist

The median age of all homebuyers is now 49 years old, up from 31 in 1981

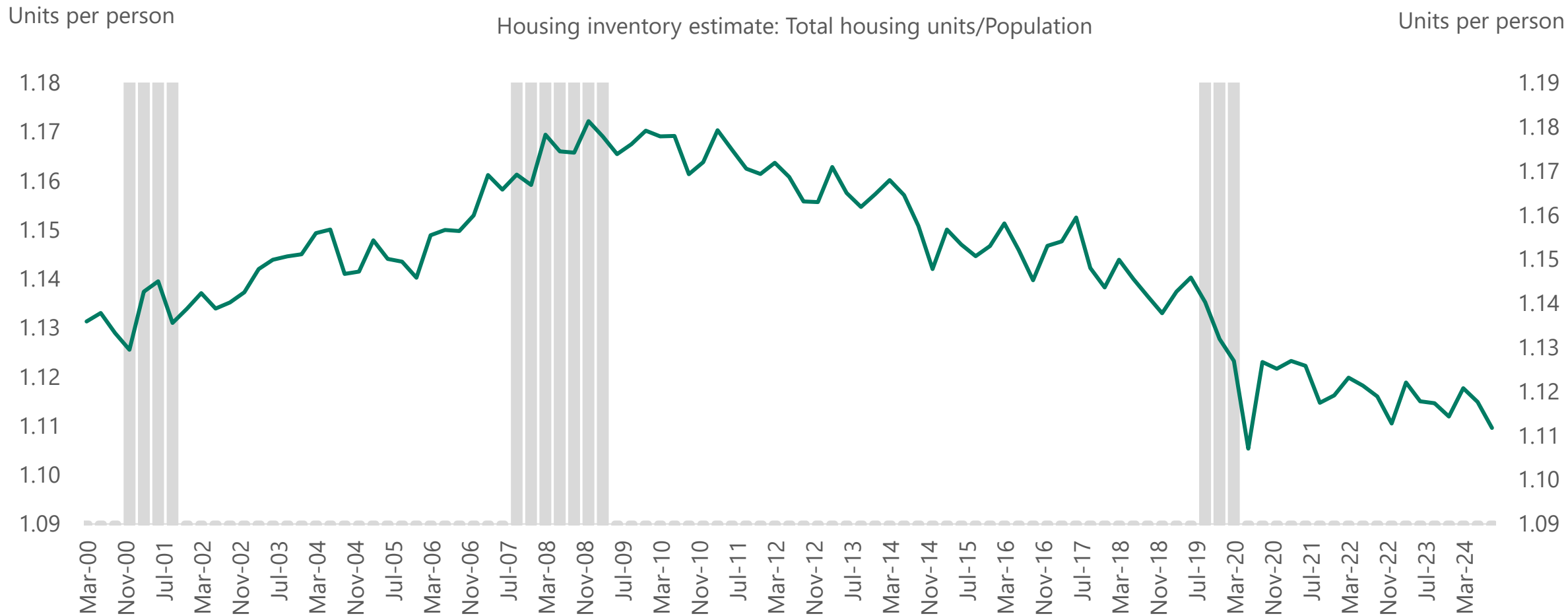


40% of US homes don't have a mortgage



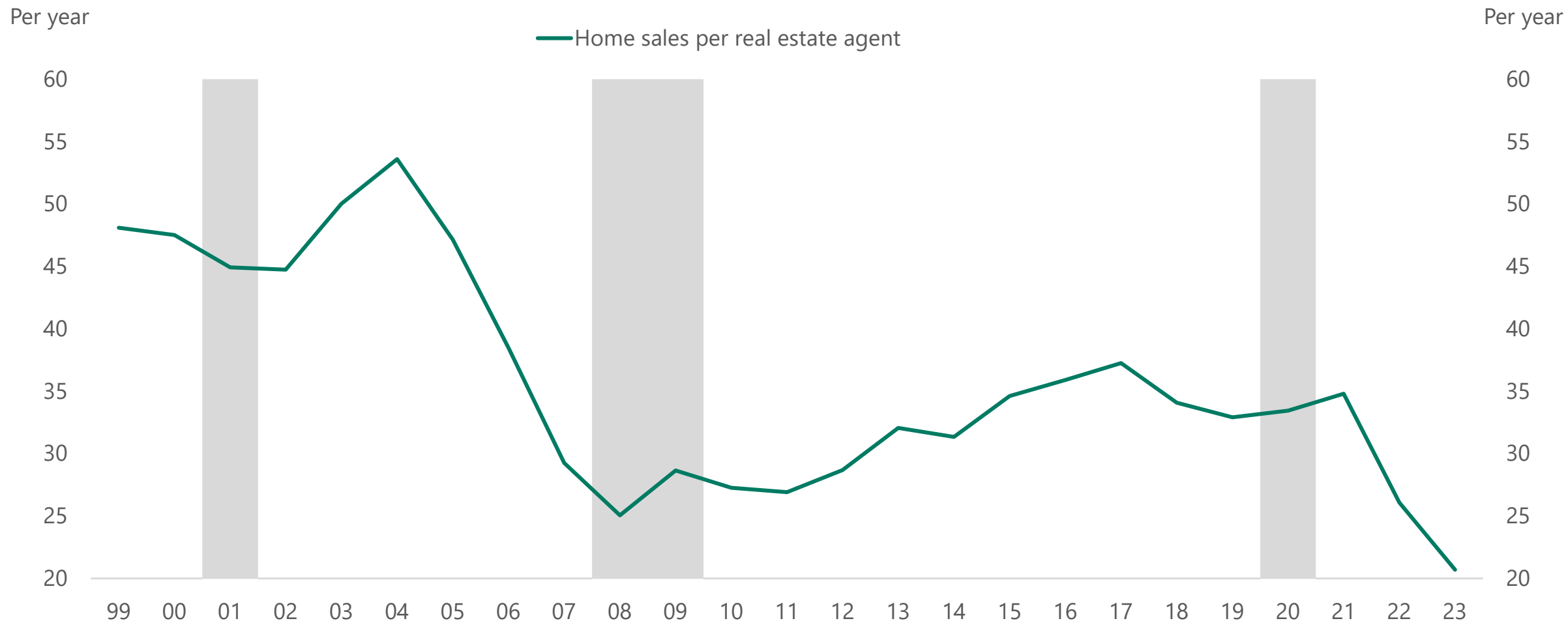
Source: US Census Bureau, Bloomberg, Apollo Chief Economist

Total housing inventory per person is very low



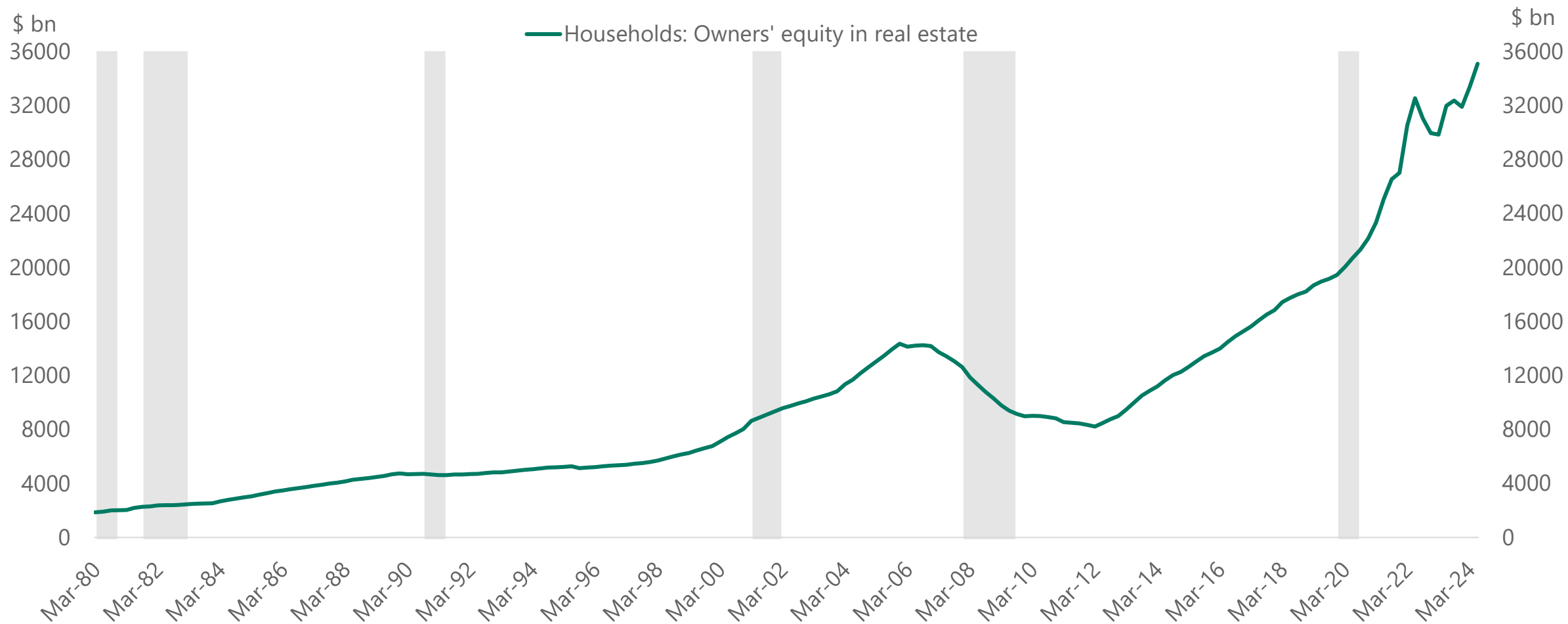
Source: Census Bureau, FRED, Apollo Chief Economist

With lower inventory, real estate sales agents selling fewer homes

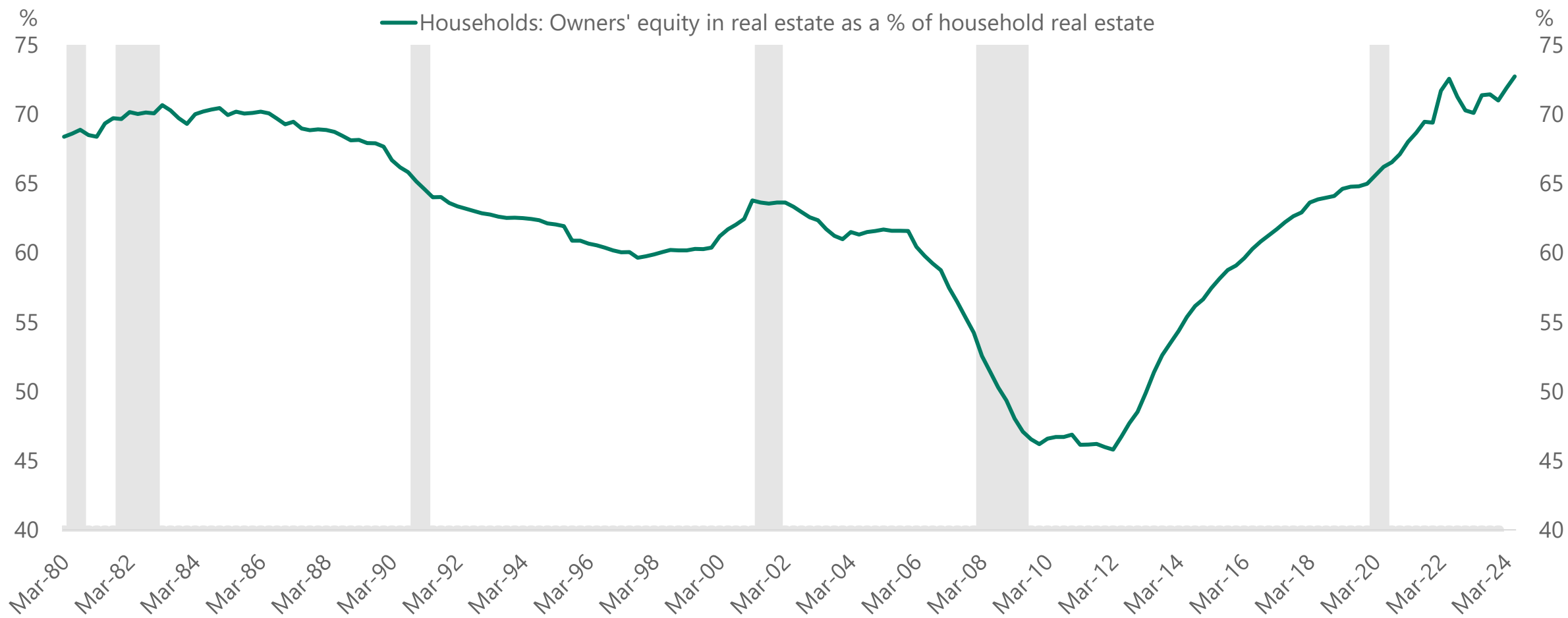


Source: NAR, BLS, Haver Analytics Apollo Chief Economist

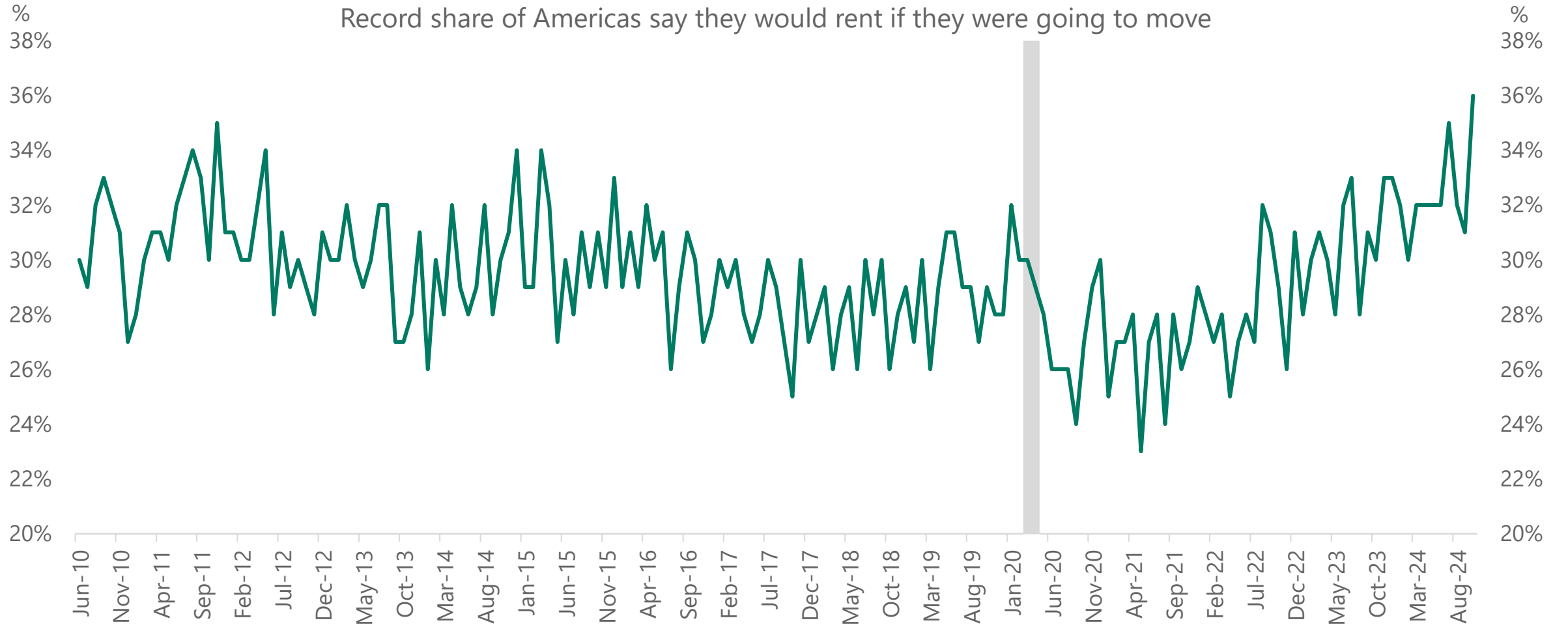
Households' equity in real estate rising to \$35trn



Households' equity share in real estate at all-time high 73%



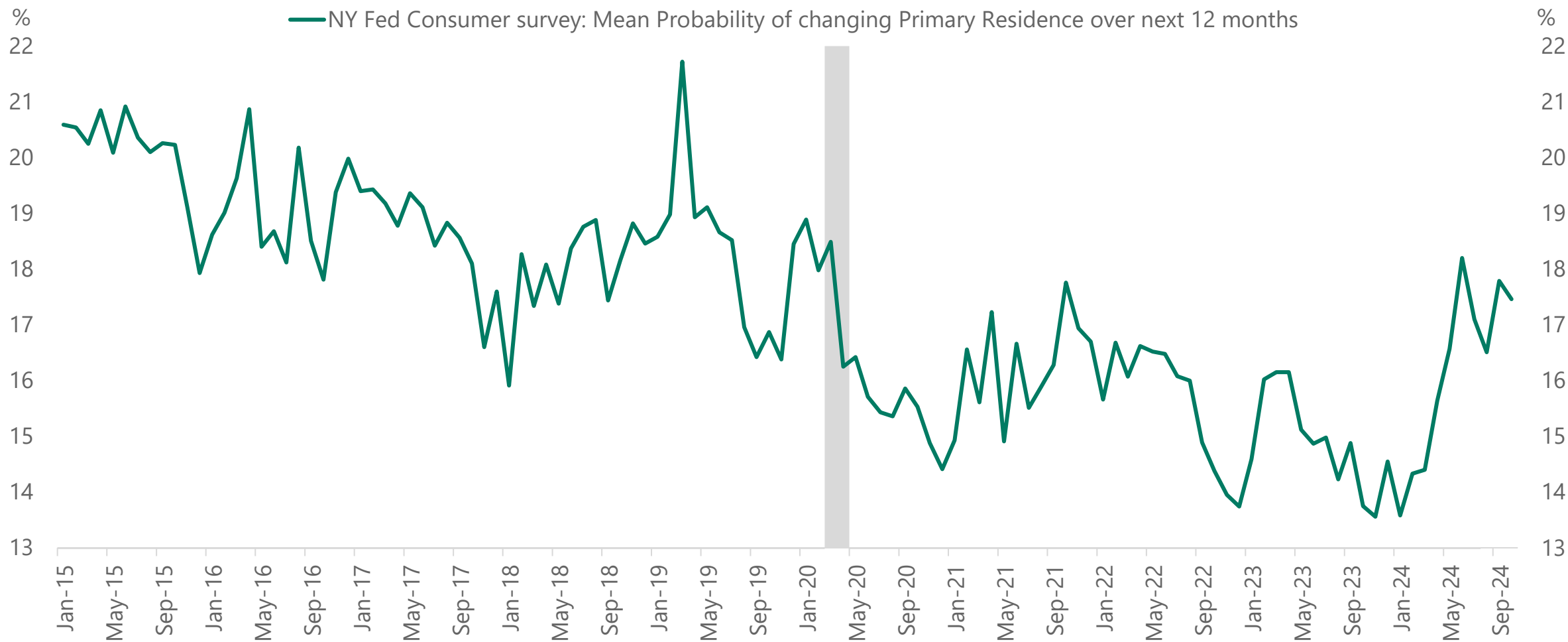
36% of Americans say they would rent if there were going to move



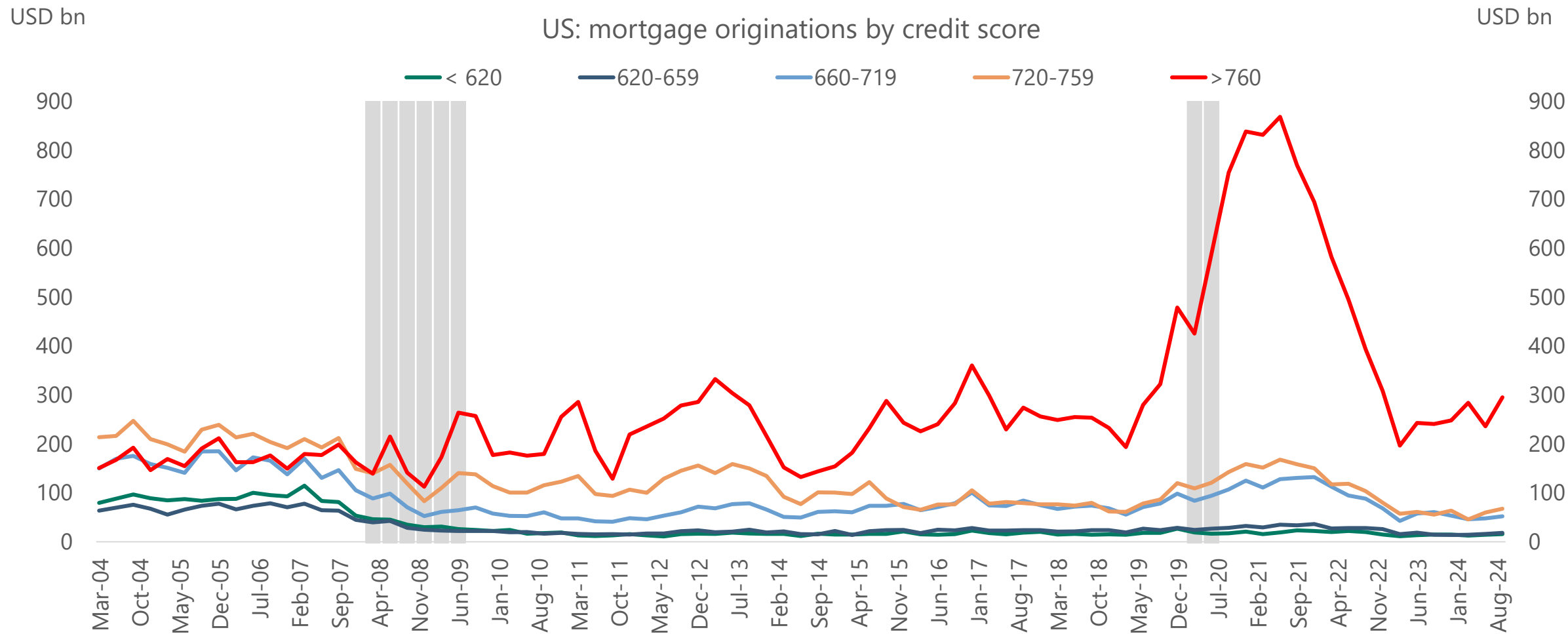
Source: Fannie Mae, Apollo Chief Economist.

Leading indicators for the housing market

Share of households planning to move over the next 12 months has increased recently

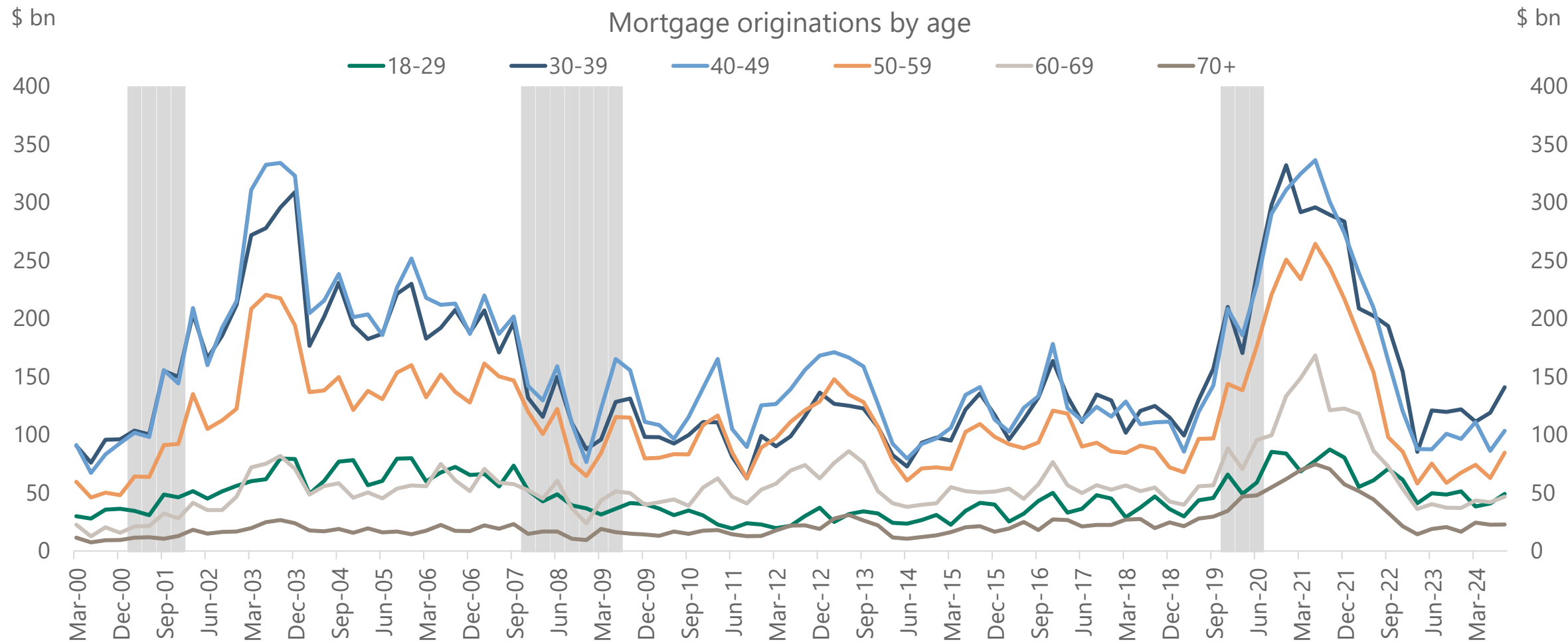


Mortgage originations have normalized for households with high credit scores



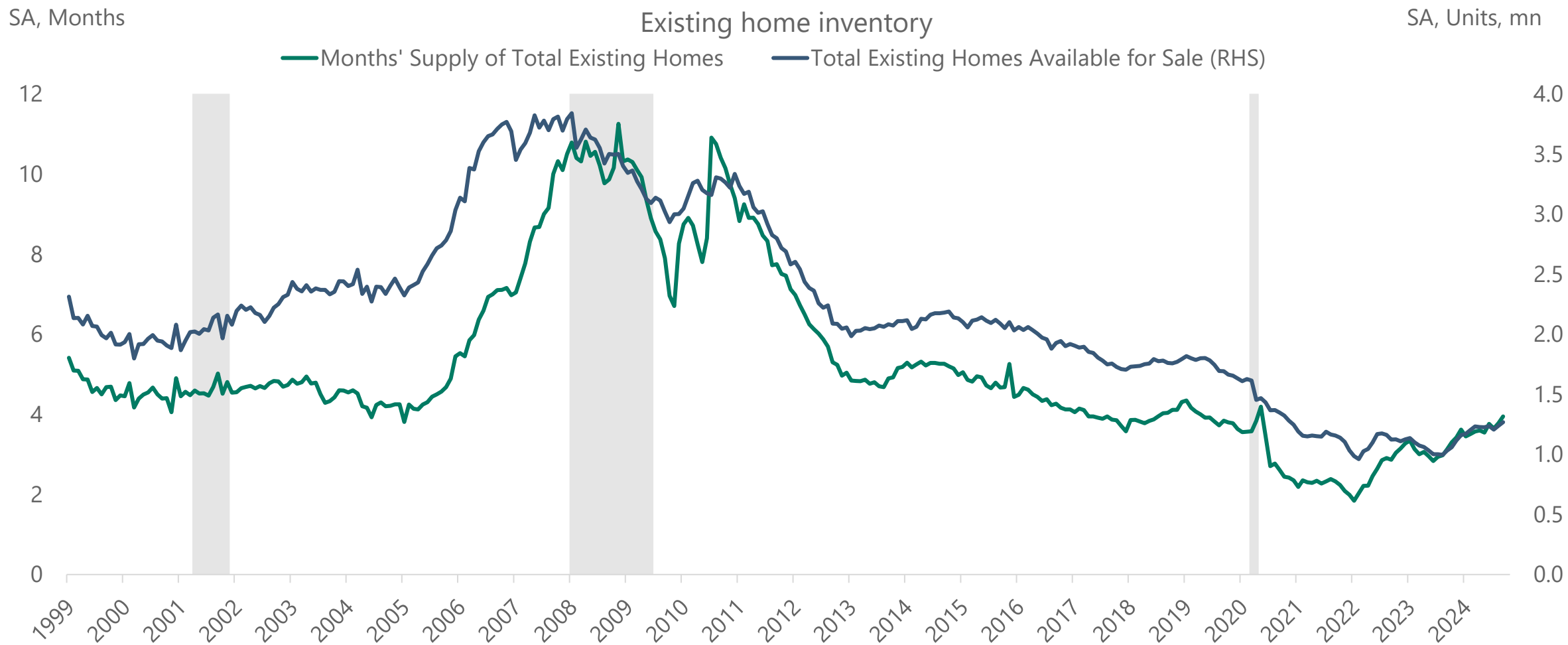
Source: NY Fed, Bloomberg, Apollo Chief Economist

Mortgage originations back at pre-pandemic levels

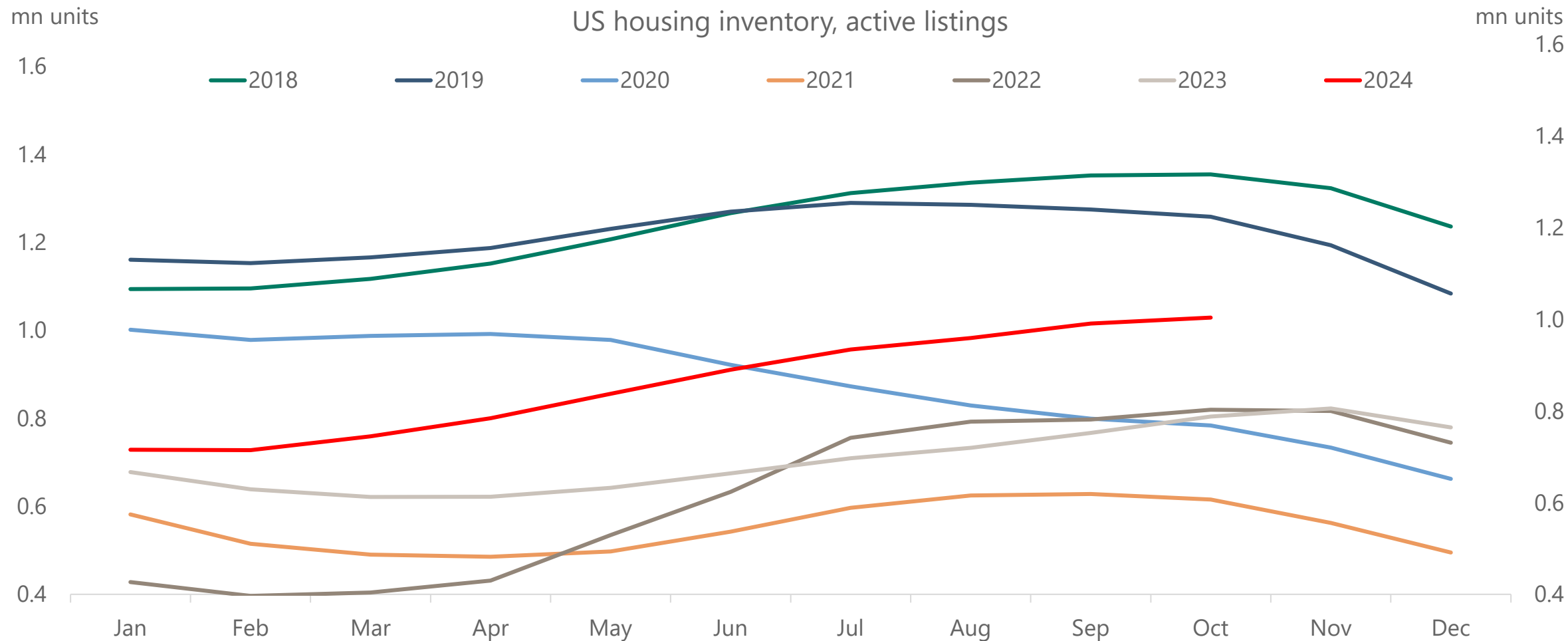


Source: NY Fed, Bloomberg, Apollo Chief Economist

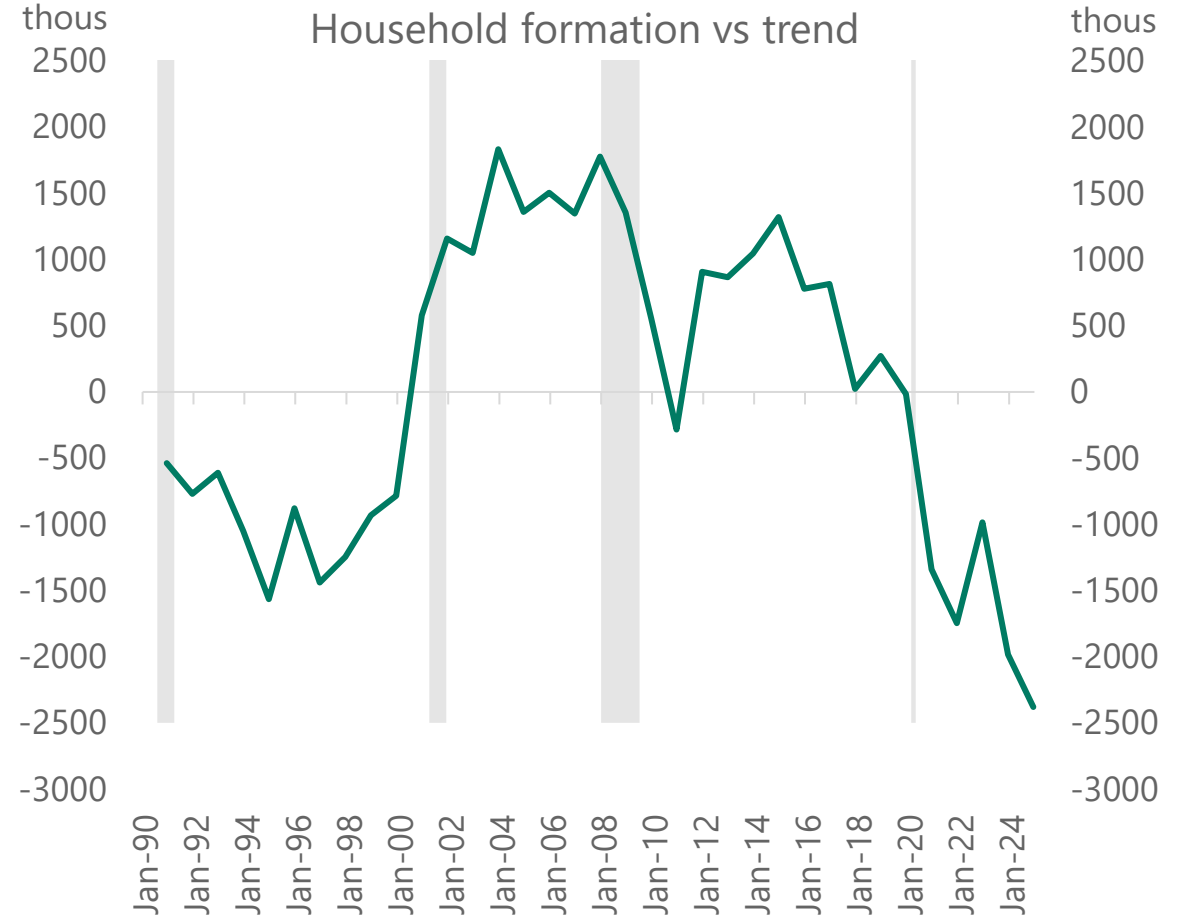
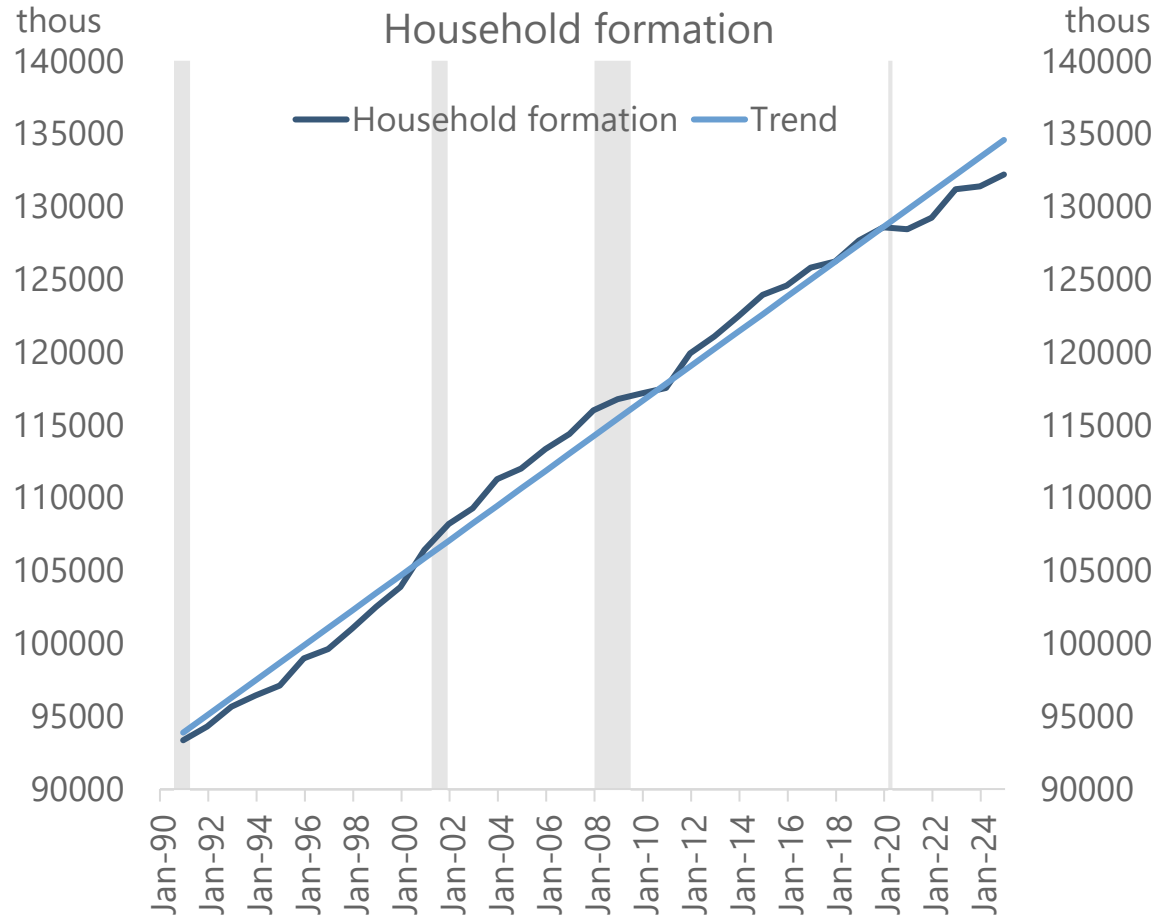
Existing housing inventory very low



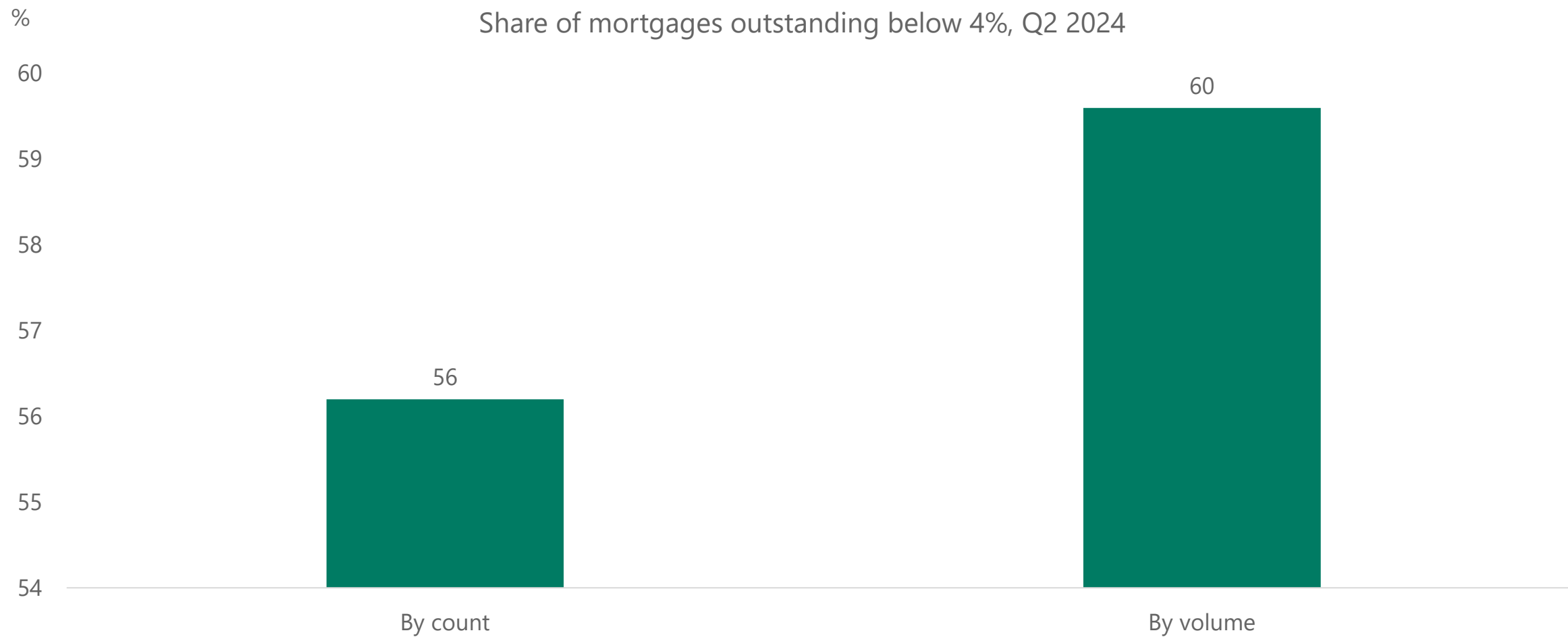
Low inventory of homes for sale. Has been rising partly for seasonal reasons.



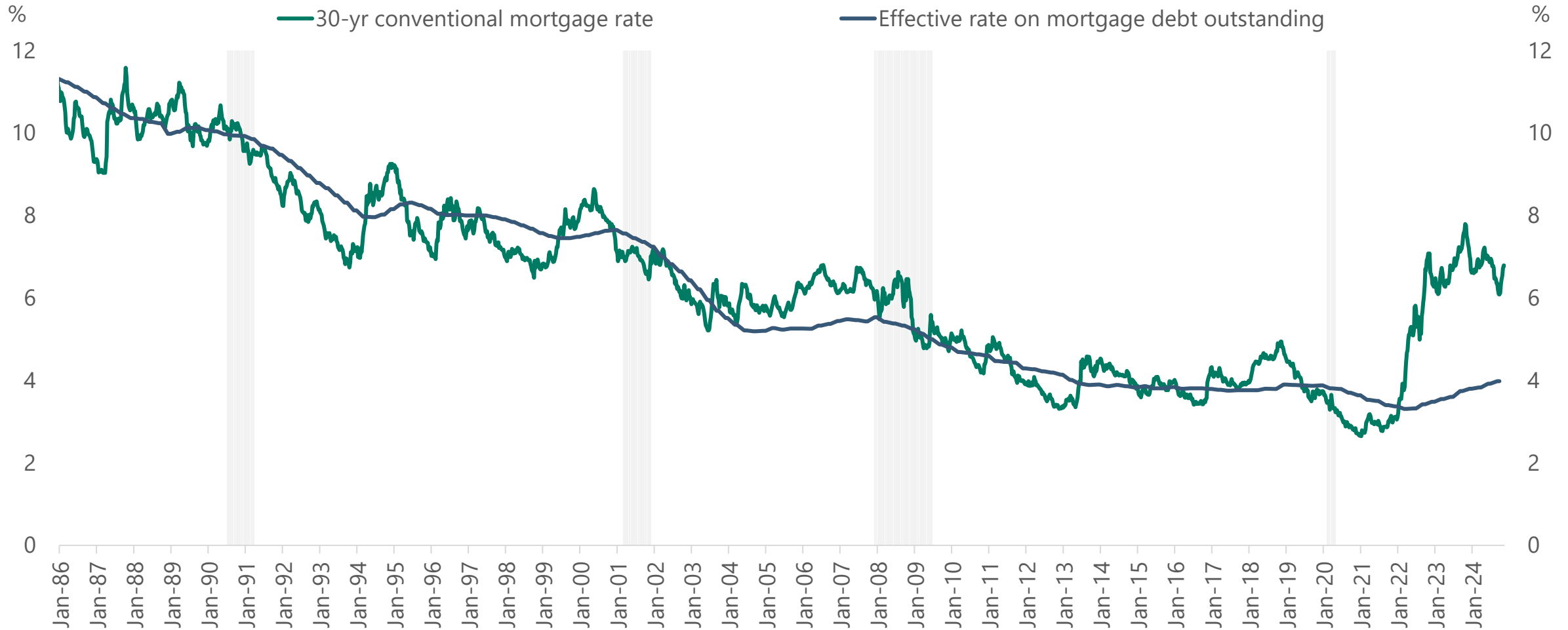
US has an estimated deficit of 2.4mn homes



More than half of all mortgages outstanding have an interest rate below 4%



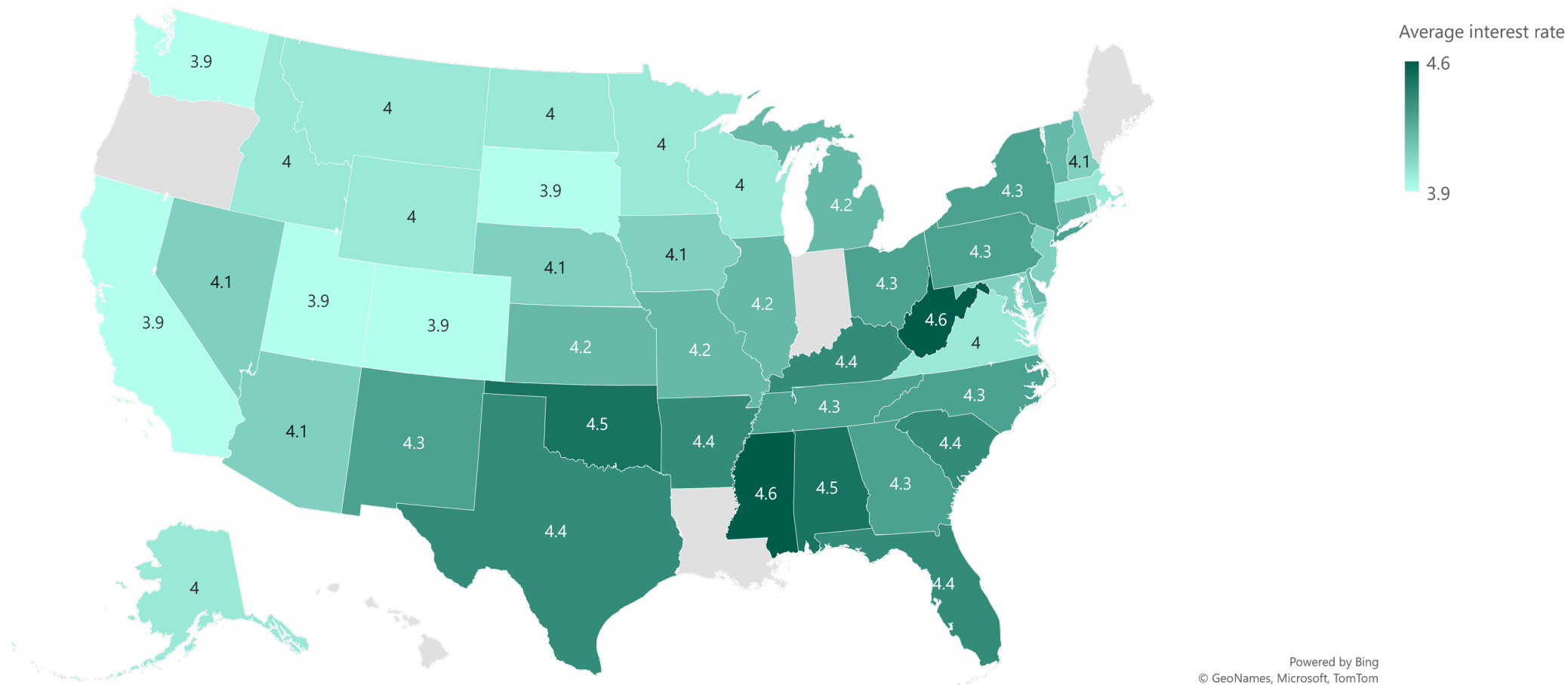
Effective outstanding mortgage rate is 3.9%



Source: Freddie Mac, BEA, Bloomberg, Apollo Chief Economist. The effective interest rate (%) reflects the amortization of initial fees and charges over a 10-year period, which is the historical assumption of the average life of a mortgage loan.

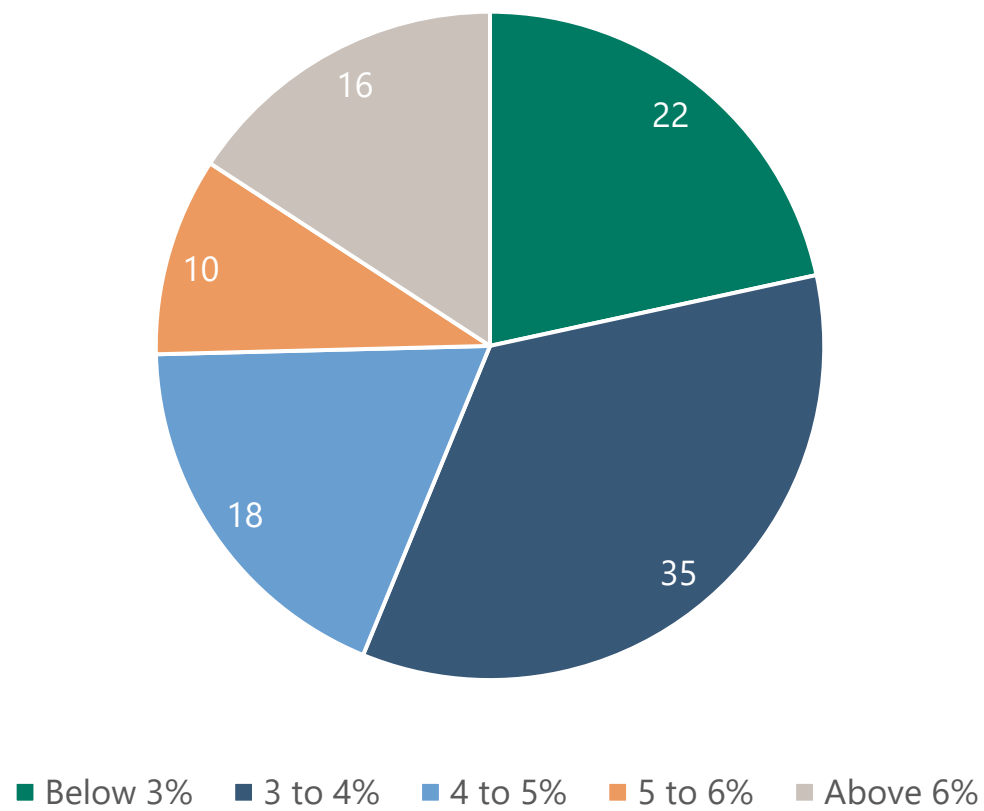
Average interest rate at origination

Average interest rate at origination for outstanding mortgages, Q2 2024

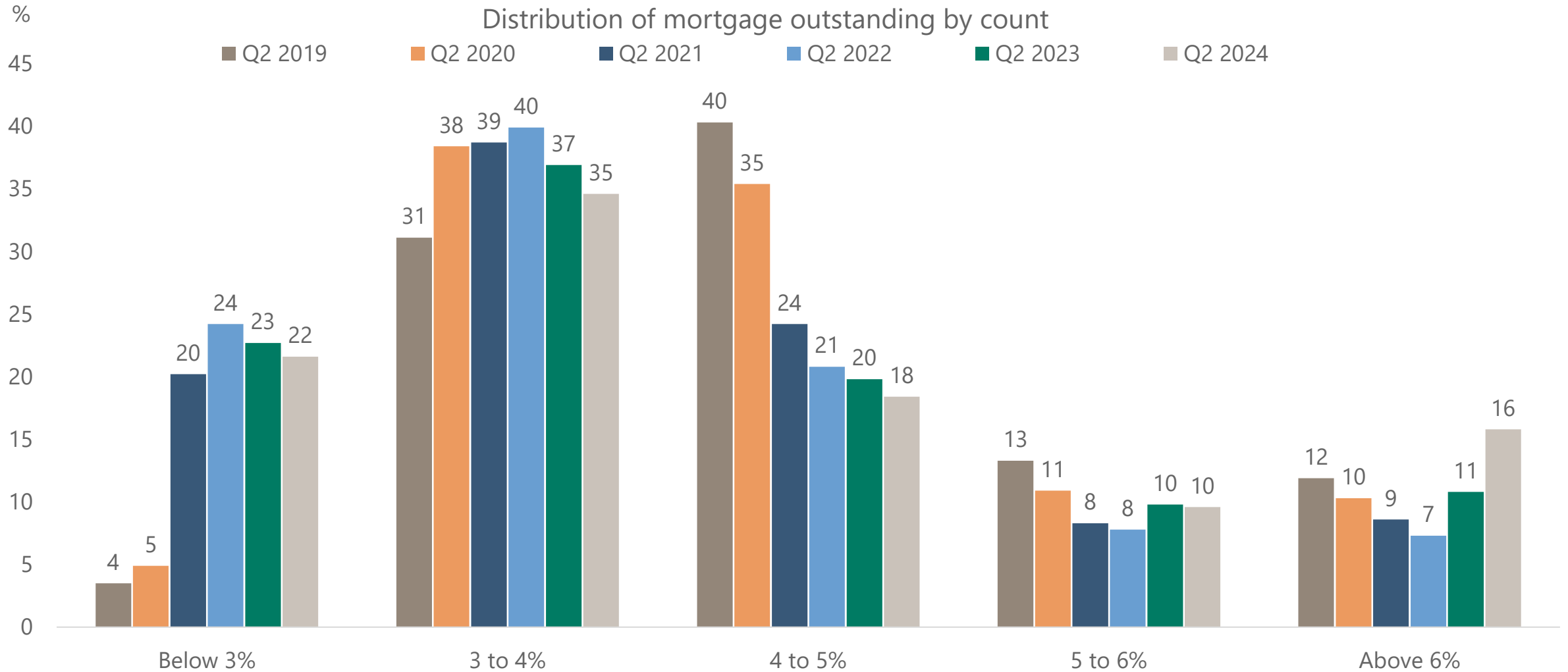


Share of mortgages outstanding by interest rate

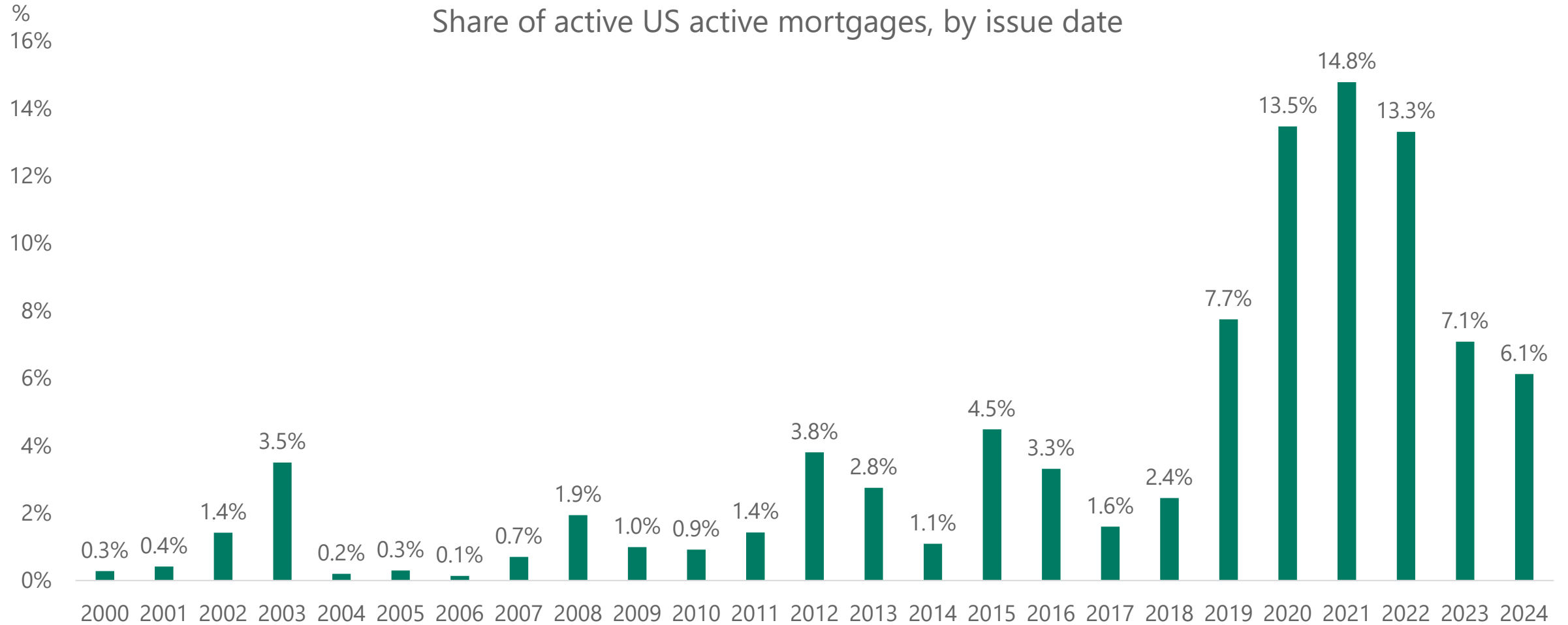
Share of mortgages outstanding by interest rate at origination by count, Q2 2024



Distribution of interest rates on outstanding mortgages

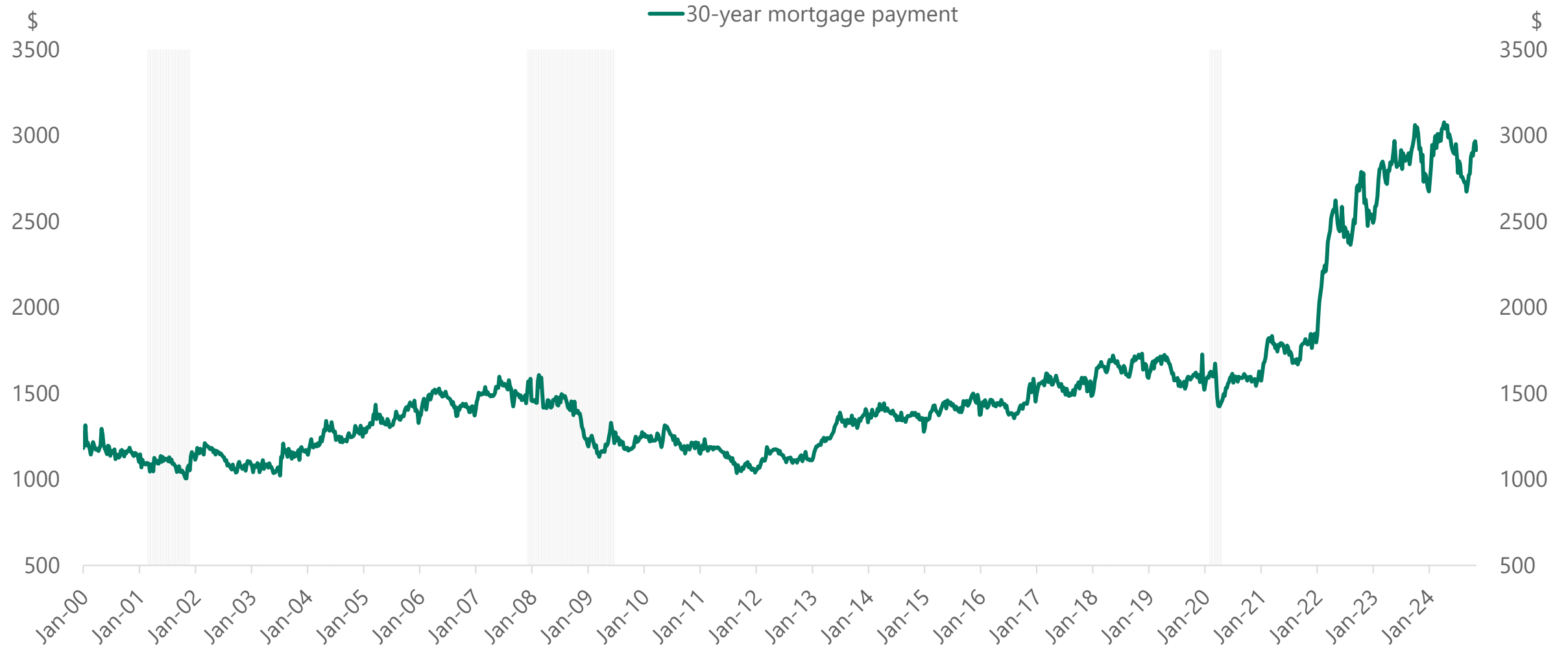


63% of all mortgages outstanding were issued after 2018



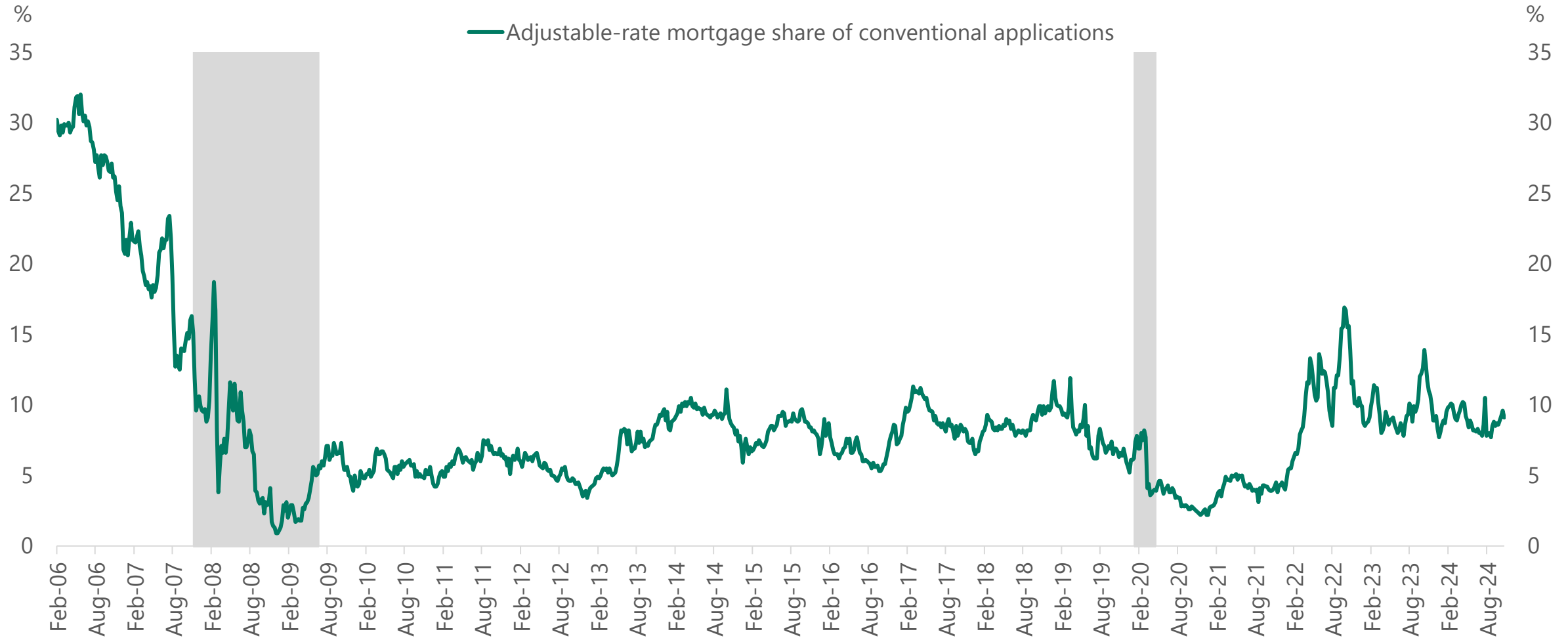
Source: Bloomberg, Apollo Chief Economist. Note: Data comes from MTGS <GO> screen on Bloomberg. Data as of November 20th, 2024

Monthly mortgage payment on a new mortgage currently \$2900



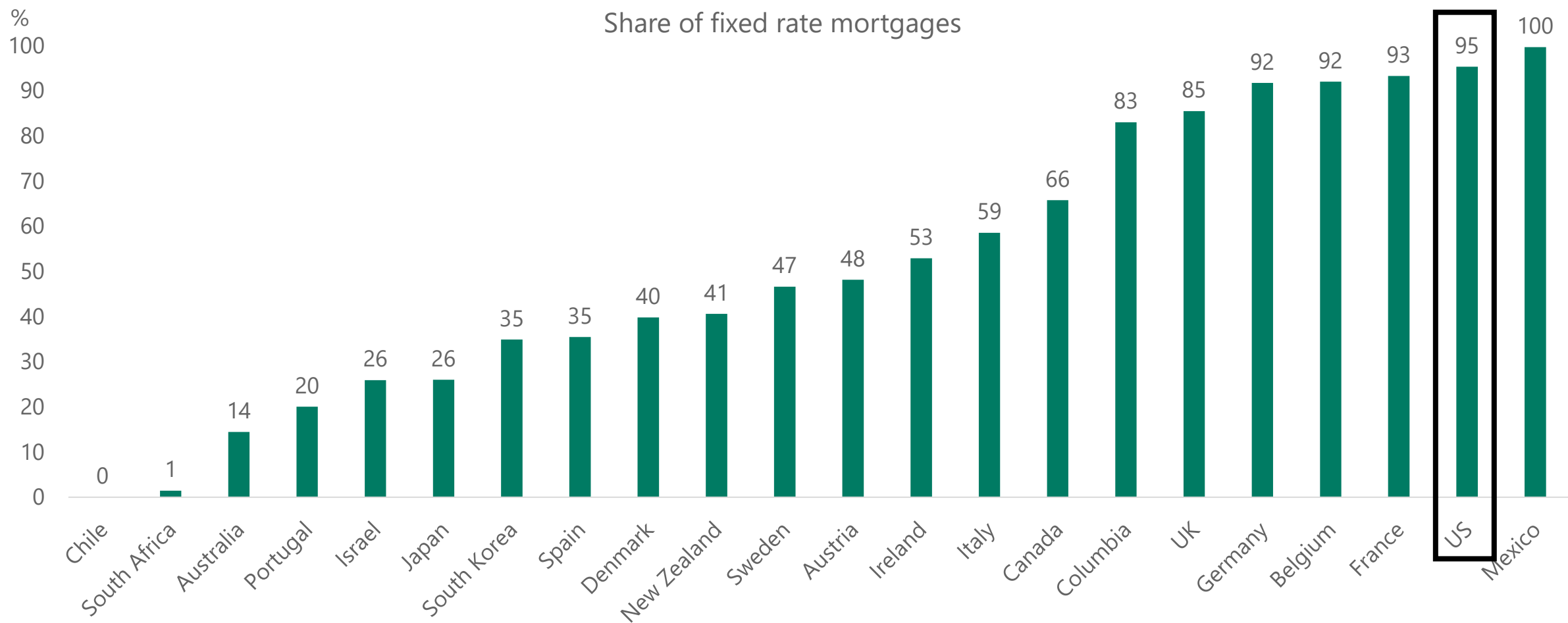
Source: Bloomberg L.P., Apollo Chief Economist (Note: Calculation of monthly payment using the 30-year purchase loan application size and the 30-yr effective rate.)

ARM share of total mortgage applications: 9%

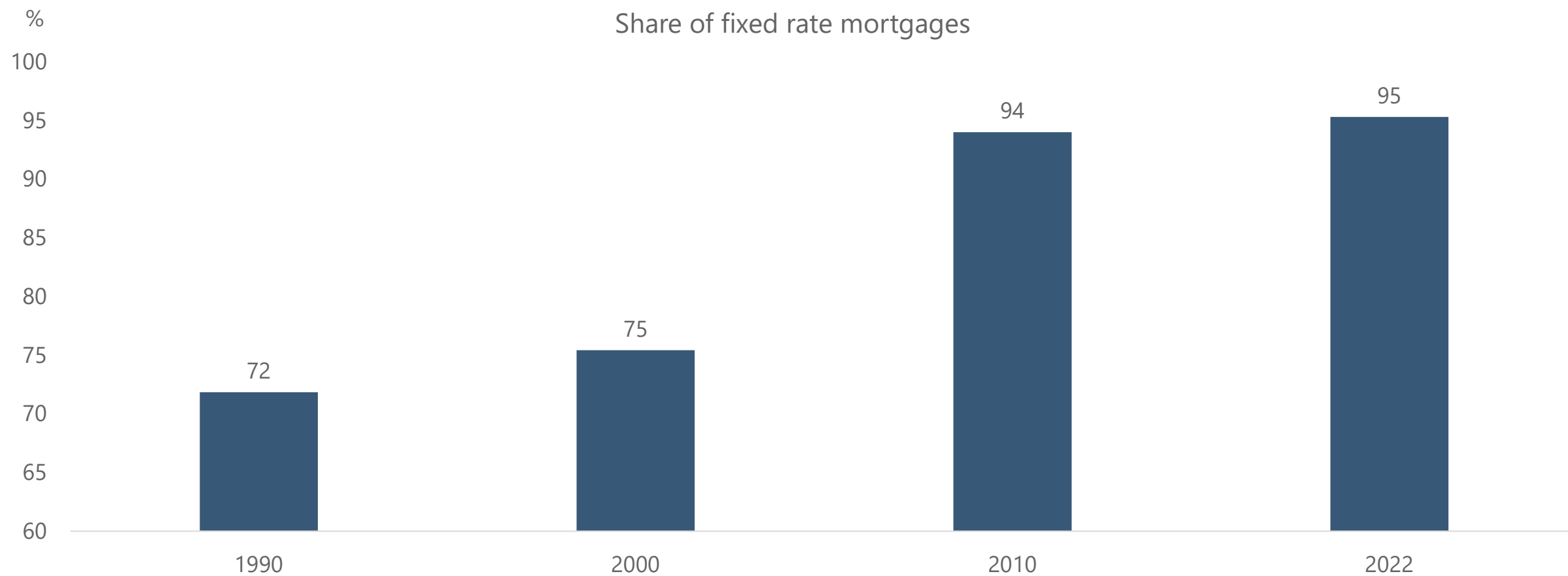


Source: MBA, Bloomberg, Apollo Chief Economist (Note: It is 5-year ARM)

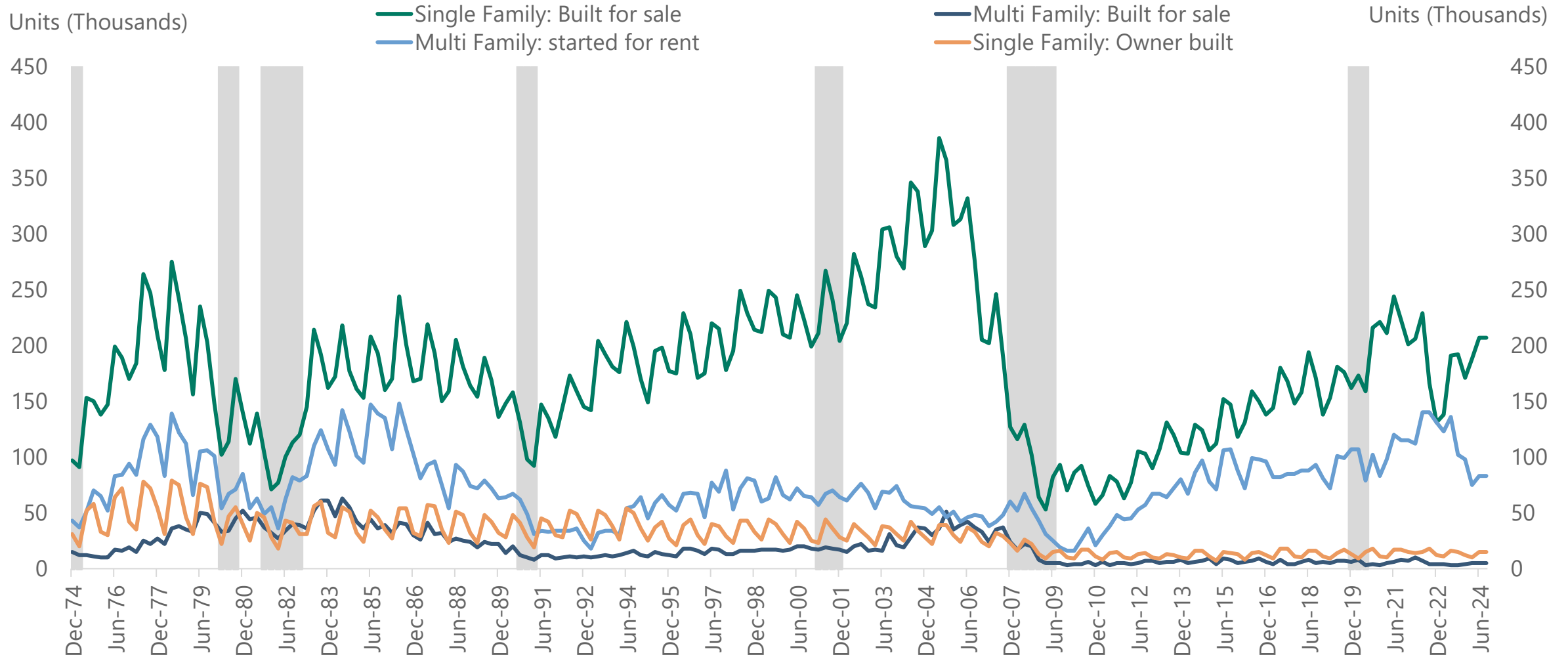
95% of mortgages outstanding are 30-year fixed rate



Share of fixed rate mortgages

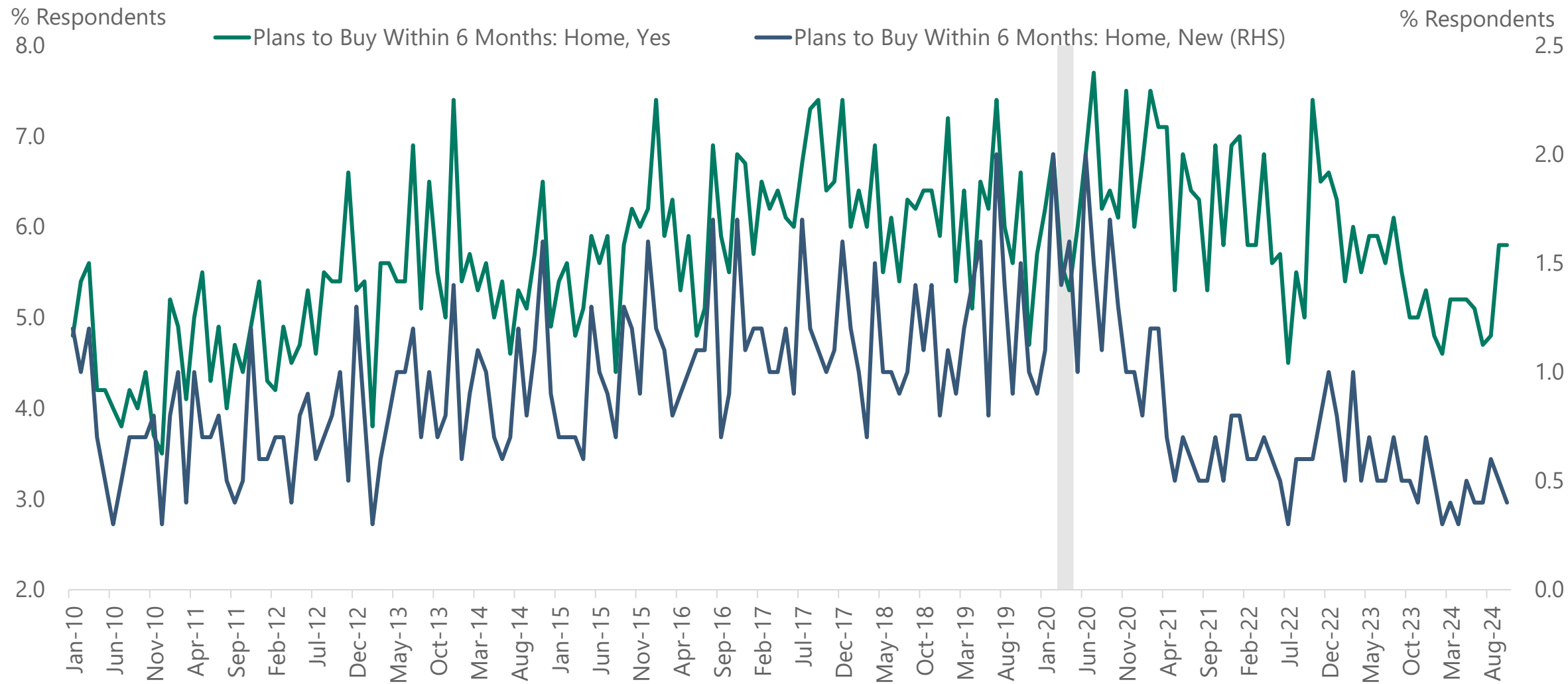


Intent of housing starts: Multi family for rent declining. Single family for sale rising.

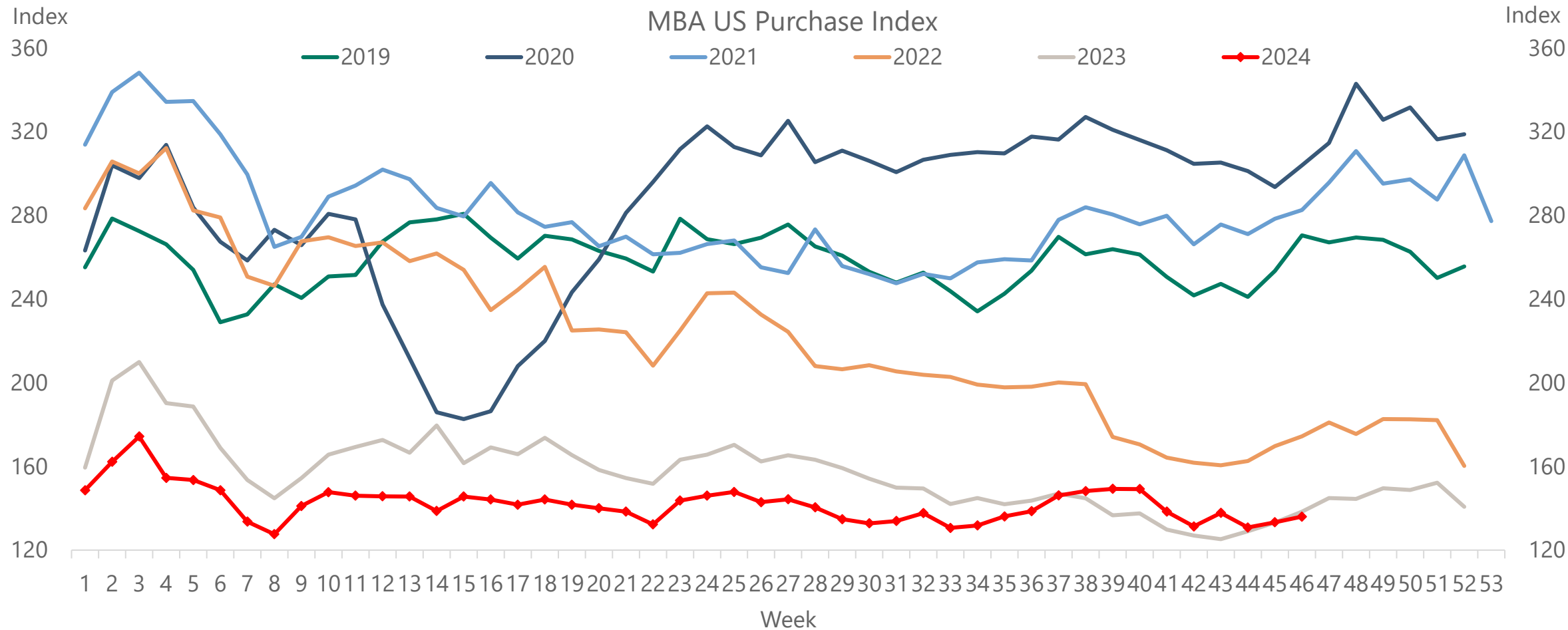


1) Housing demand: High mortgage rates, strong wage growth, steady job growth, and high stock prices

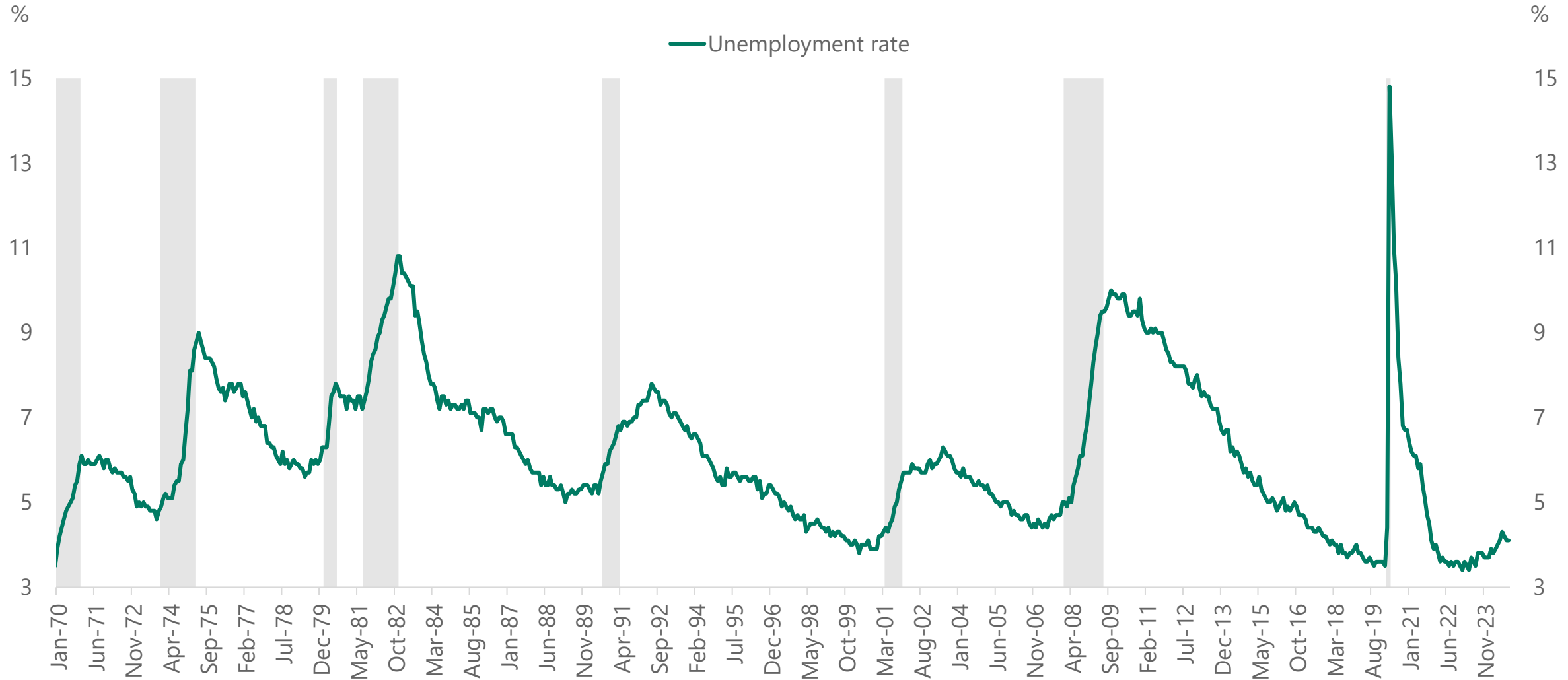
Home buying plans



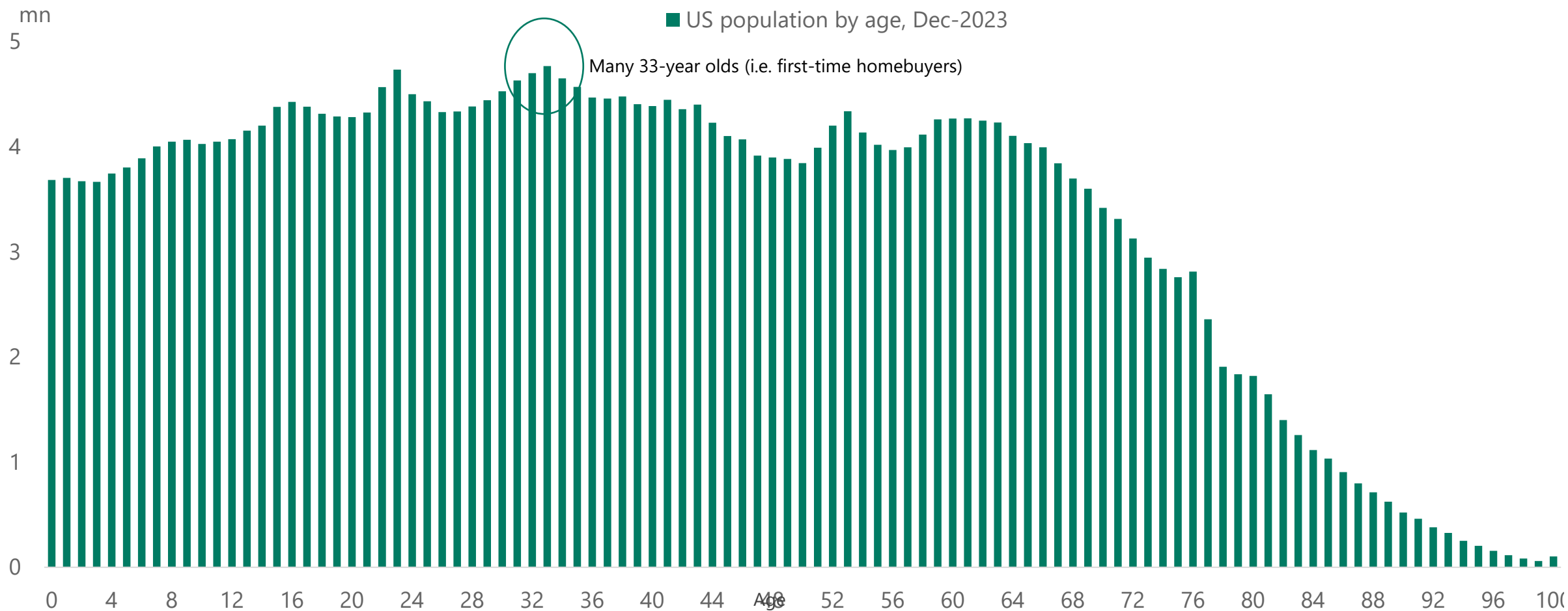
Mortgage purchase applications remain much lower than normal



The unemployment rate has started to decline, supporting housing demand

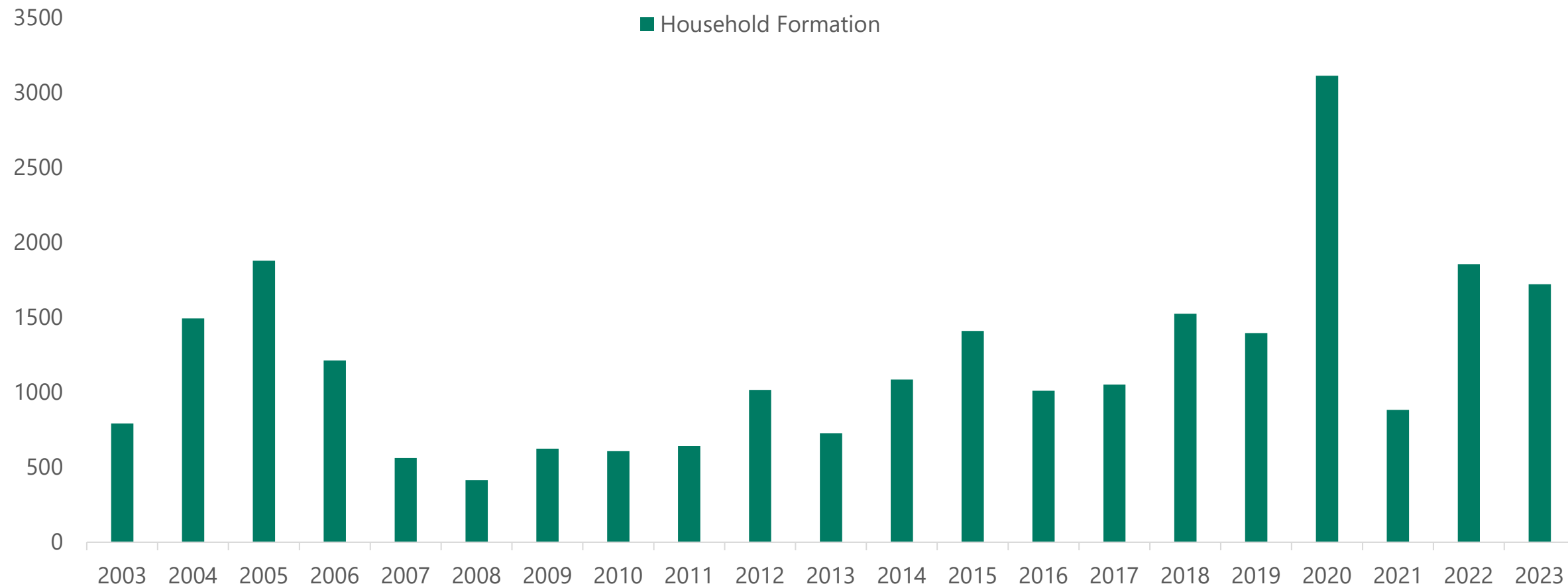


Demographics are a tailwind to housing demand

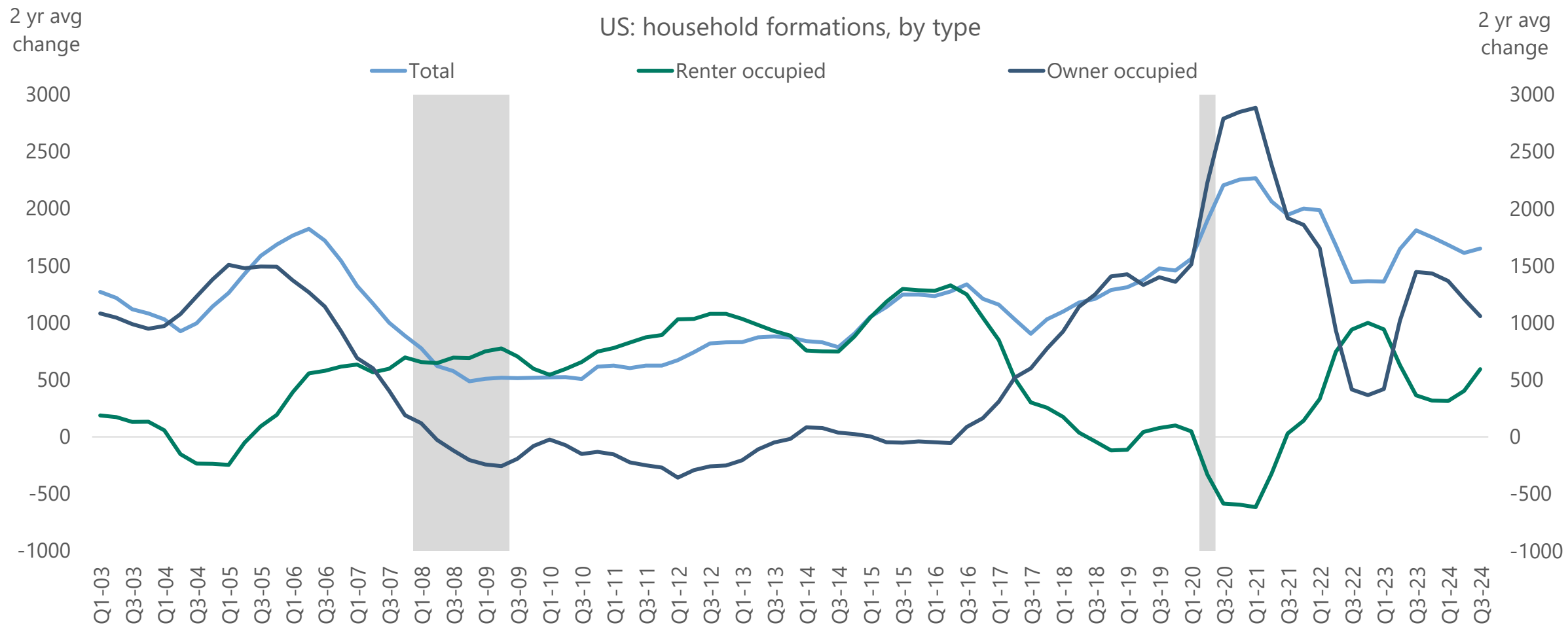


Strong household formation is a tailwind to housing demand

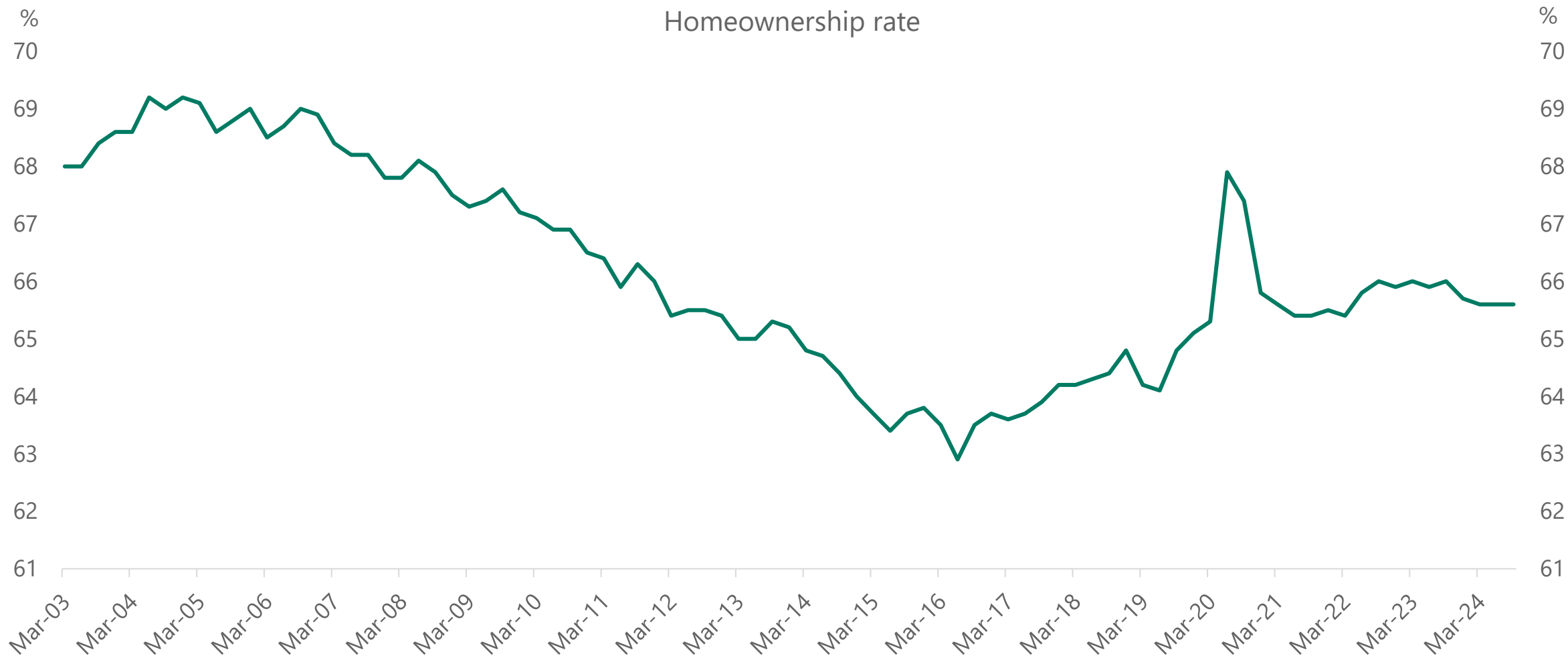
Thousands of units



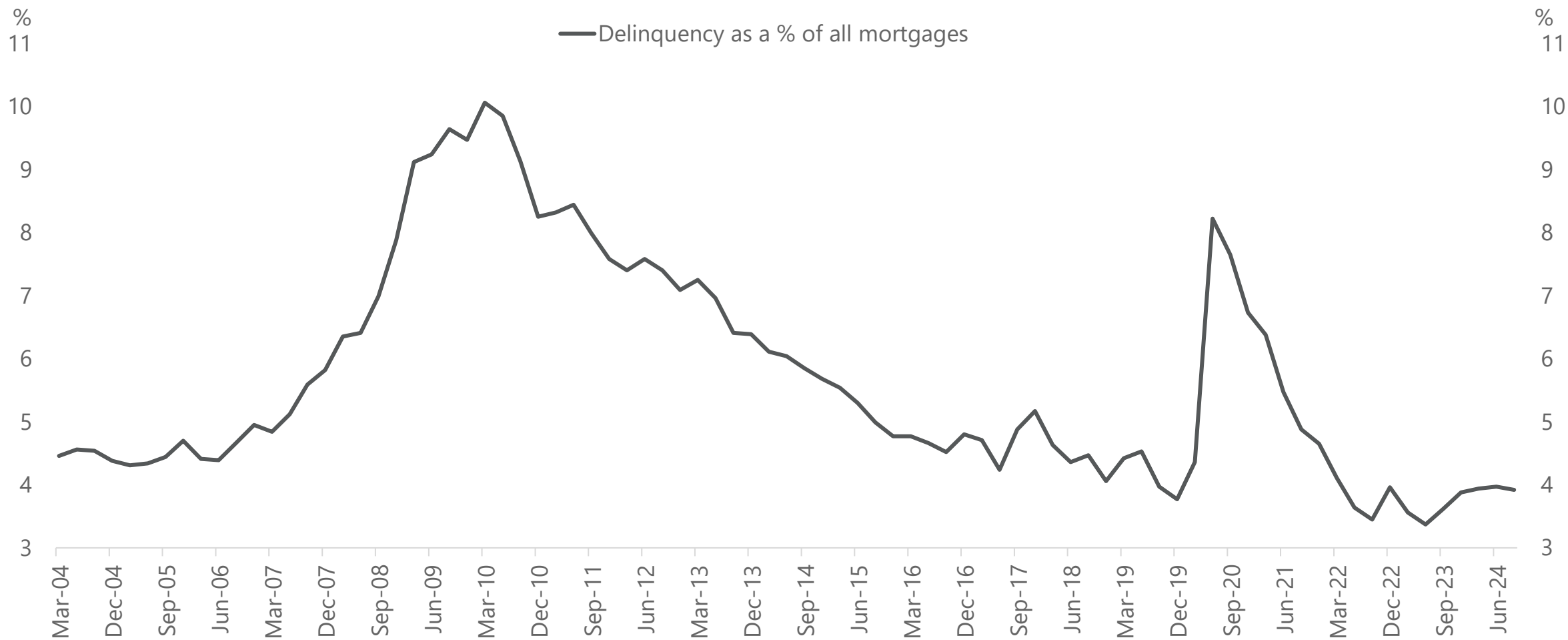
US household formations by type



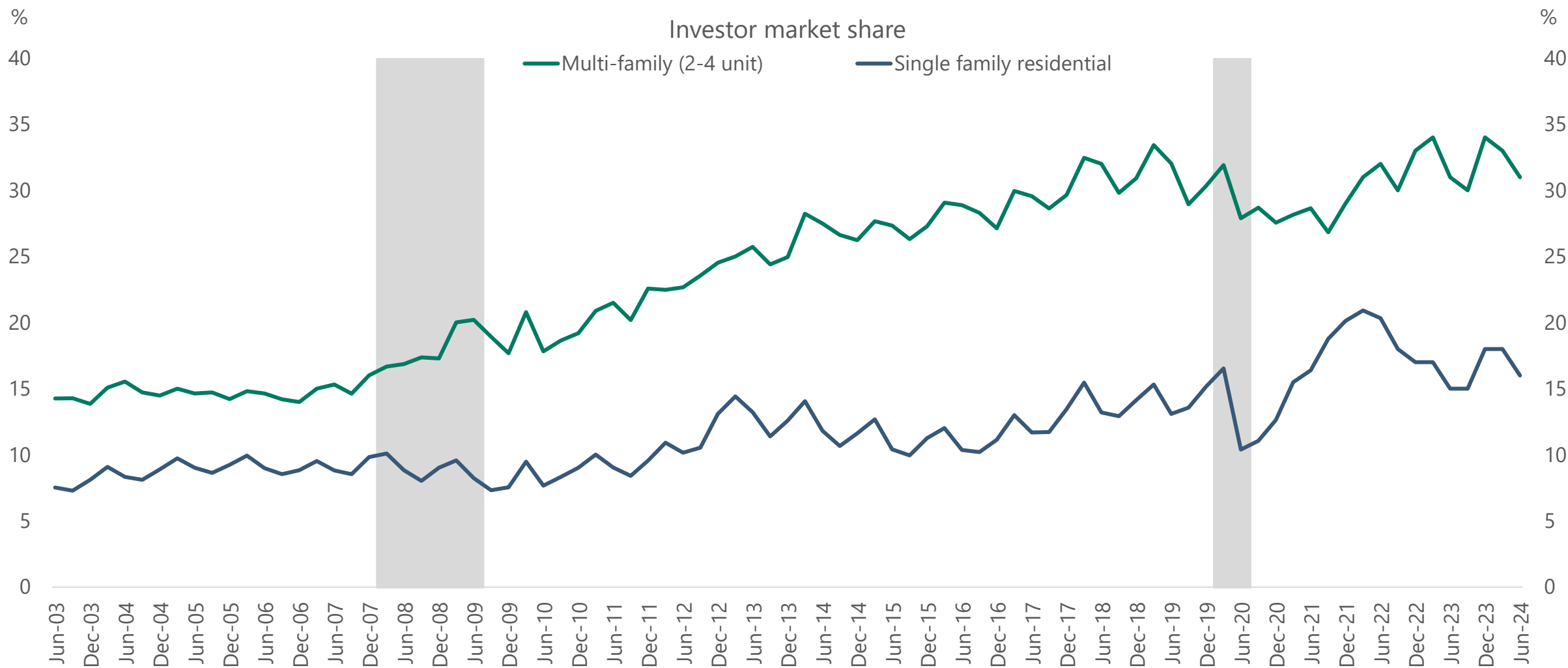
Homeownership rate moving sideways



Delinquency rate for mortgages very low

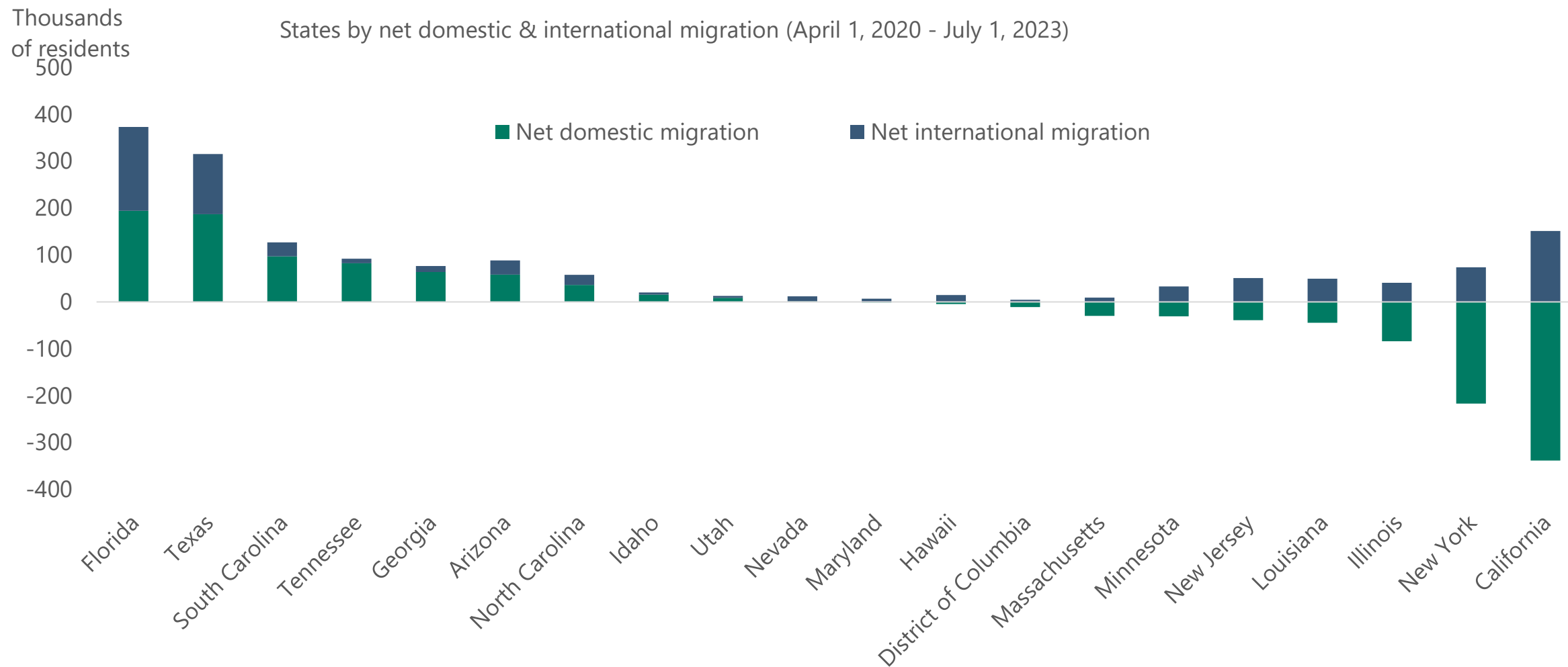


Investor share of single-family is stable

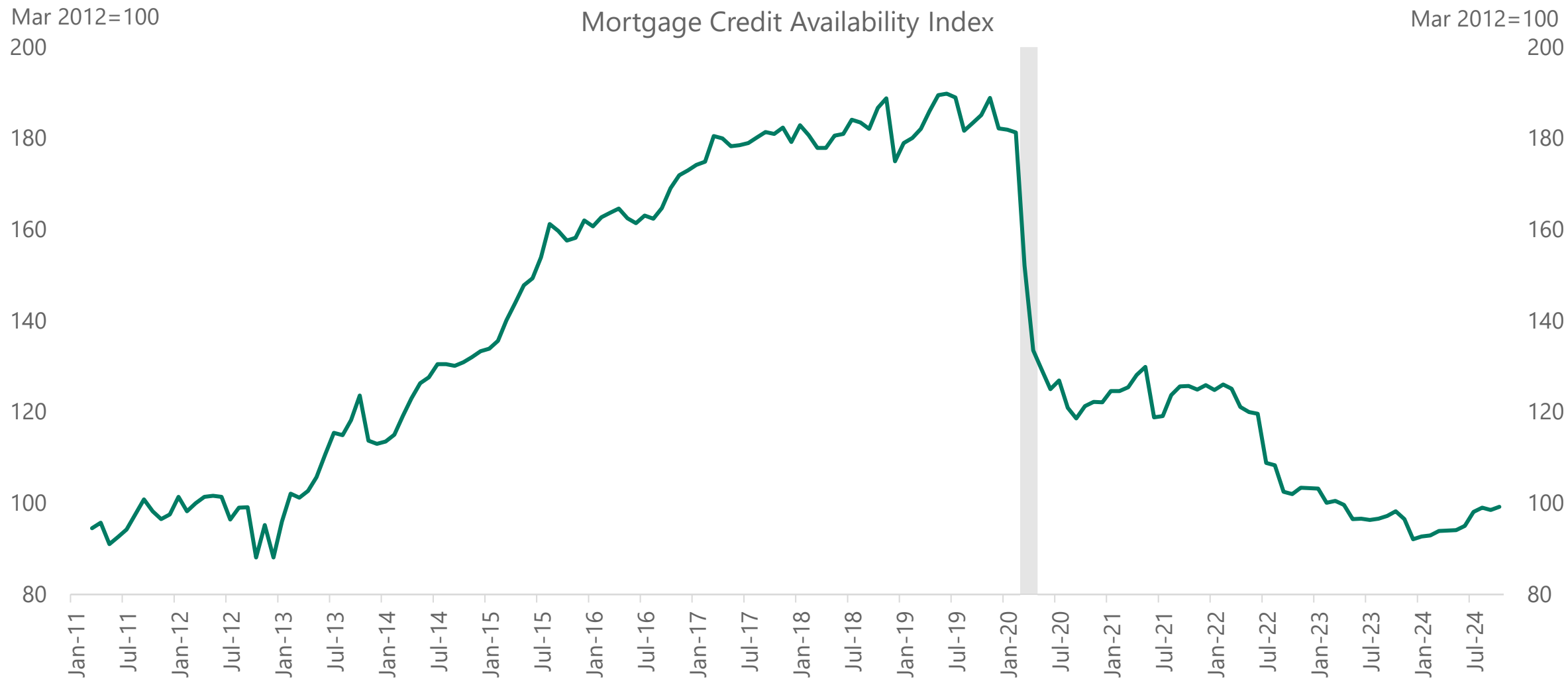


Source: Redfin, Apollo Chief Economist (Definition of Investor market share: the percentage of total home sales in which an investor was the buyer)

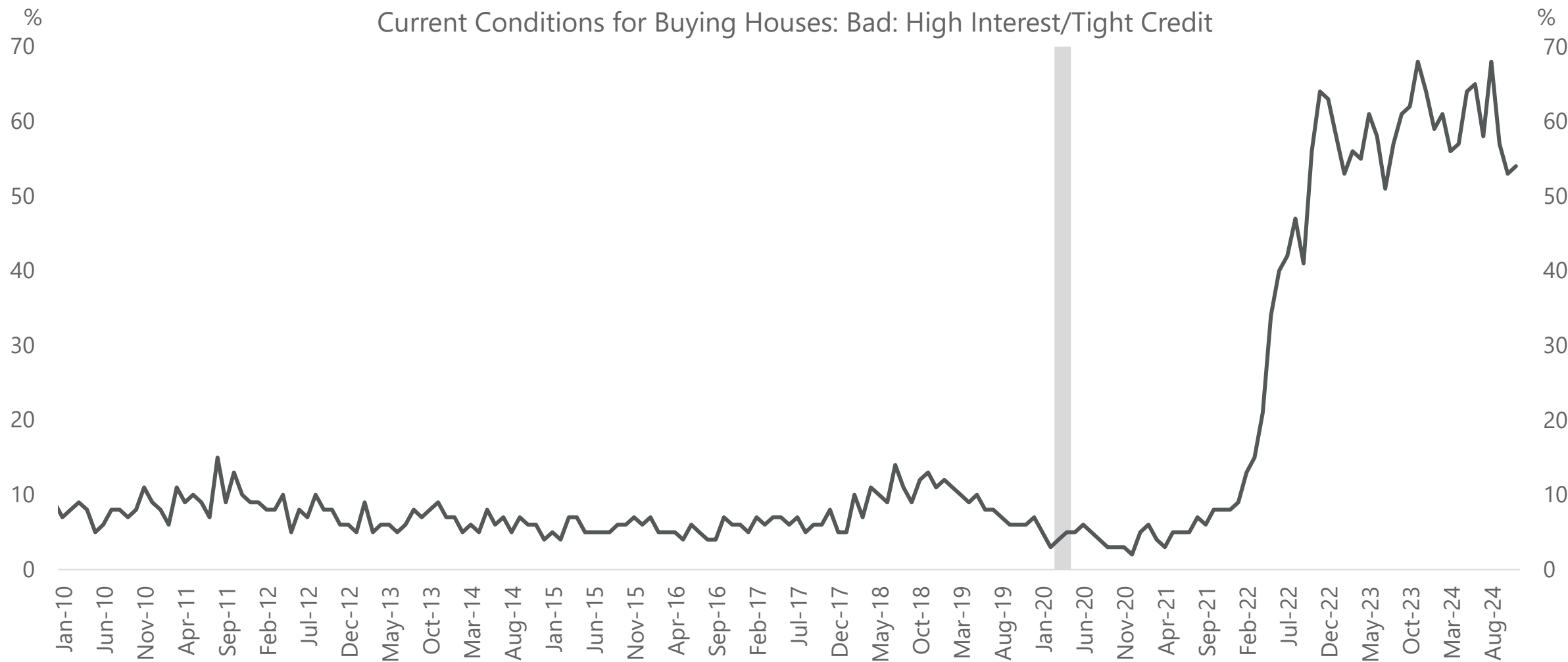
Migration out of California and migration into Florida during the pandemic



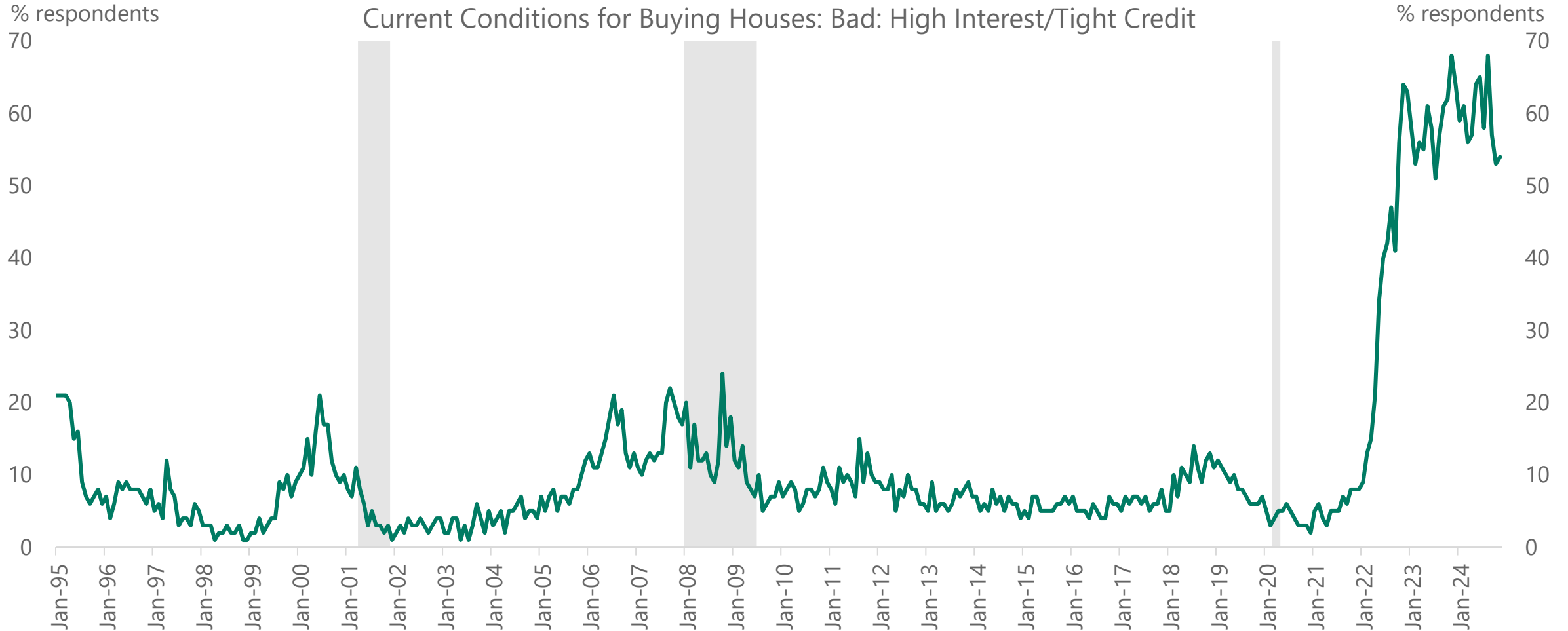
Availability of mortgage credit at tight levels



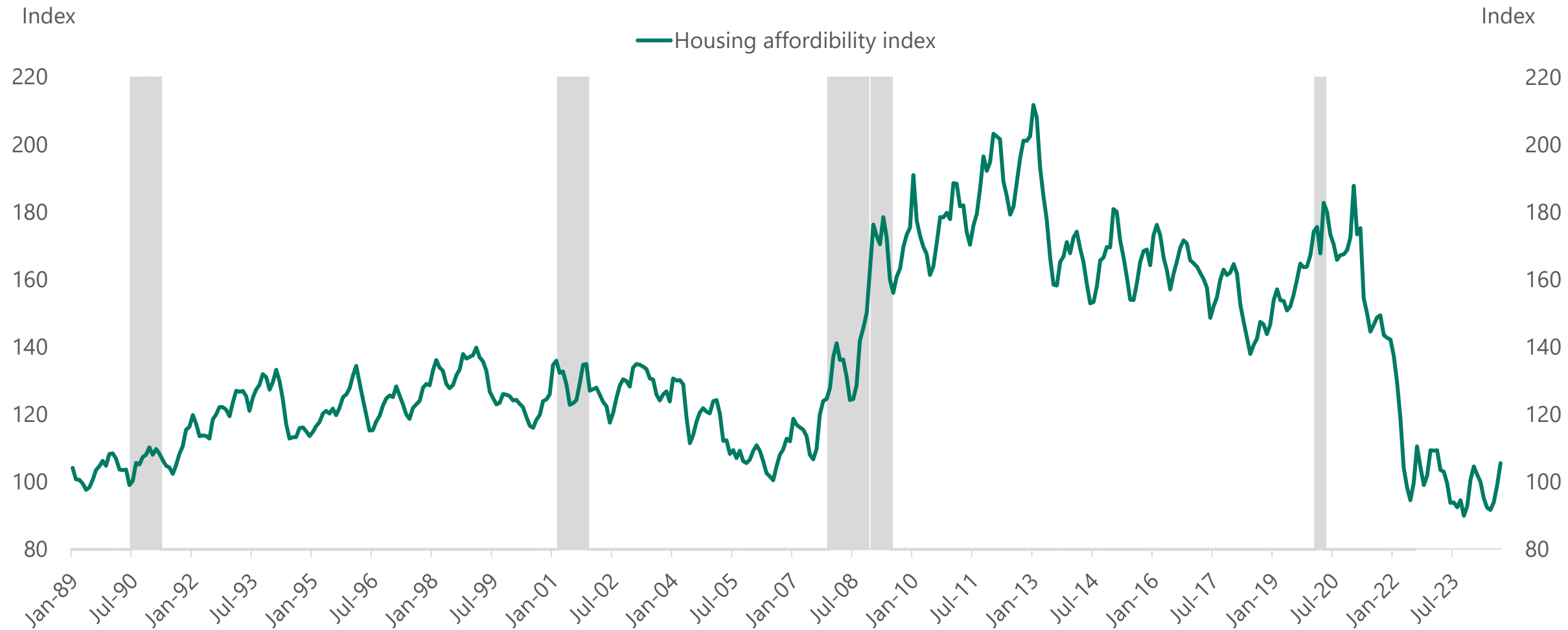
Homebuyer sentiment has improved slightly recently



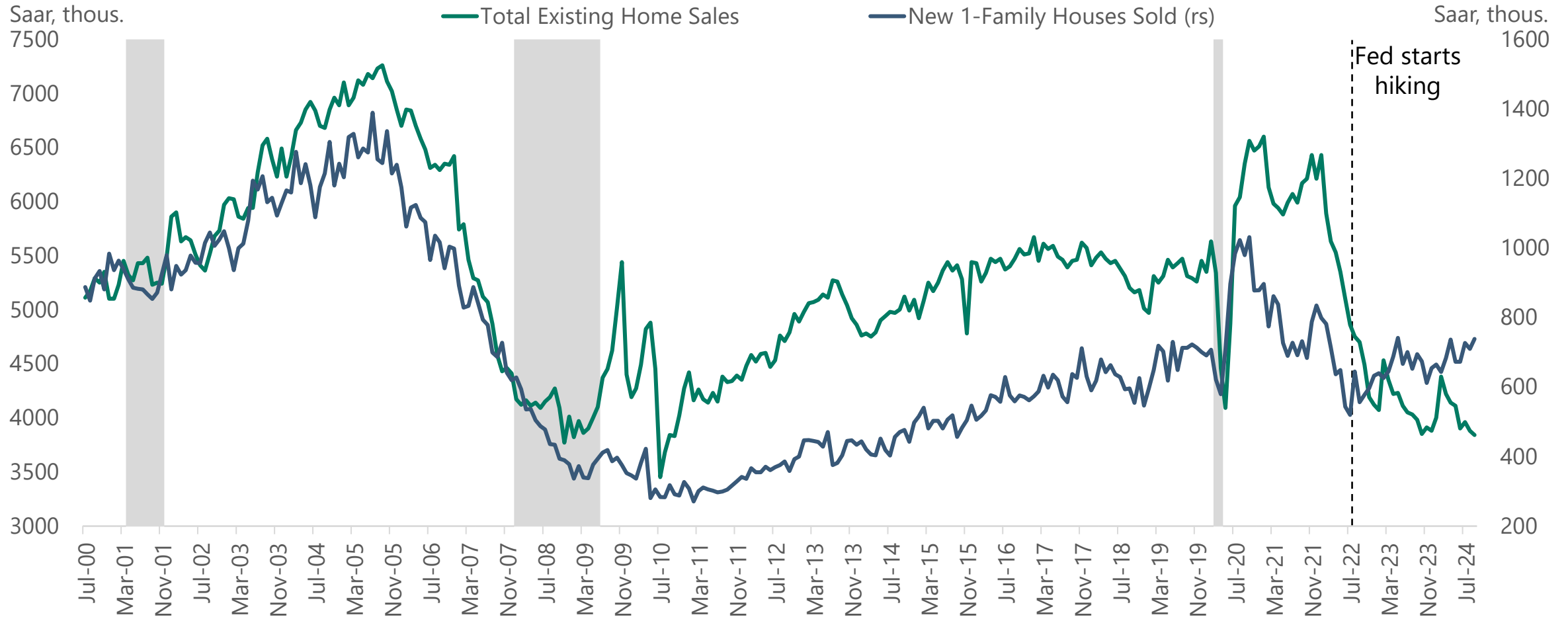
54% of consumers are saying that this is a bad time to buy a house because of high mortgage rates and tight credit



Housing affordability near record lows

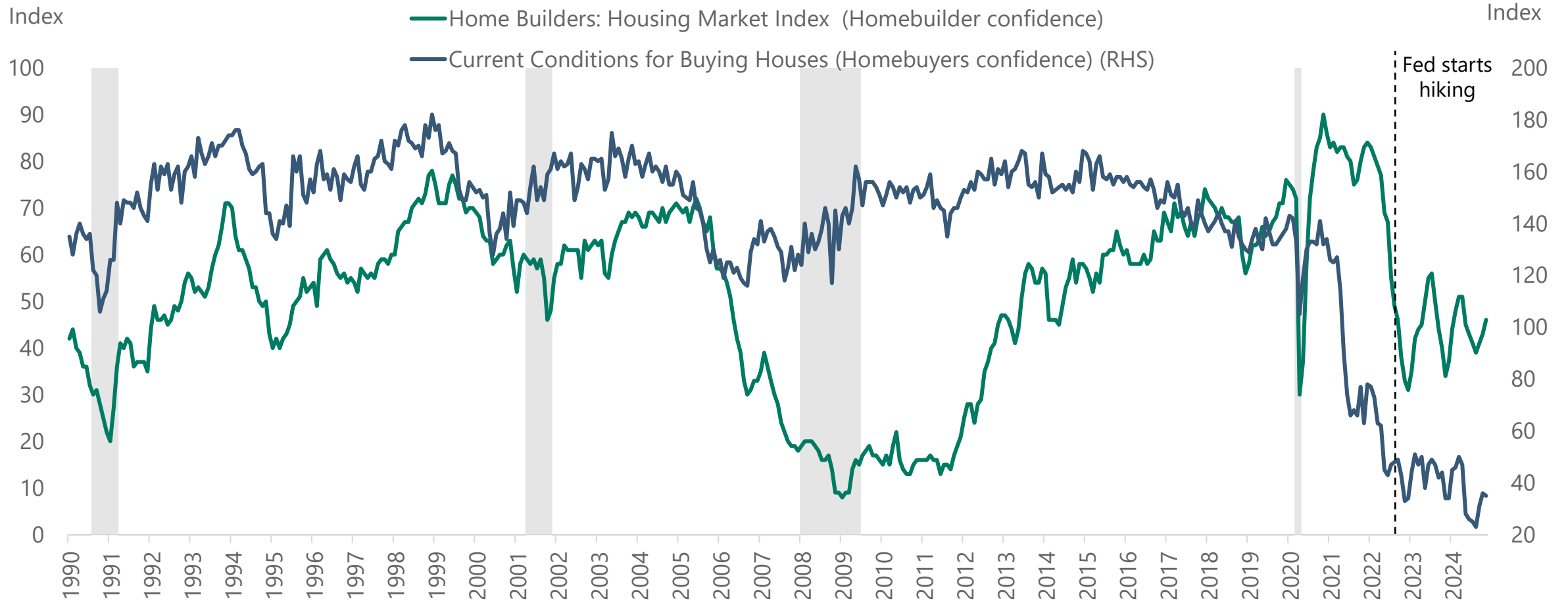


New and existing home sales lower than normal because of affordability and low inventory

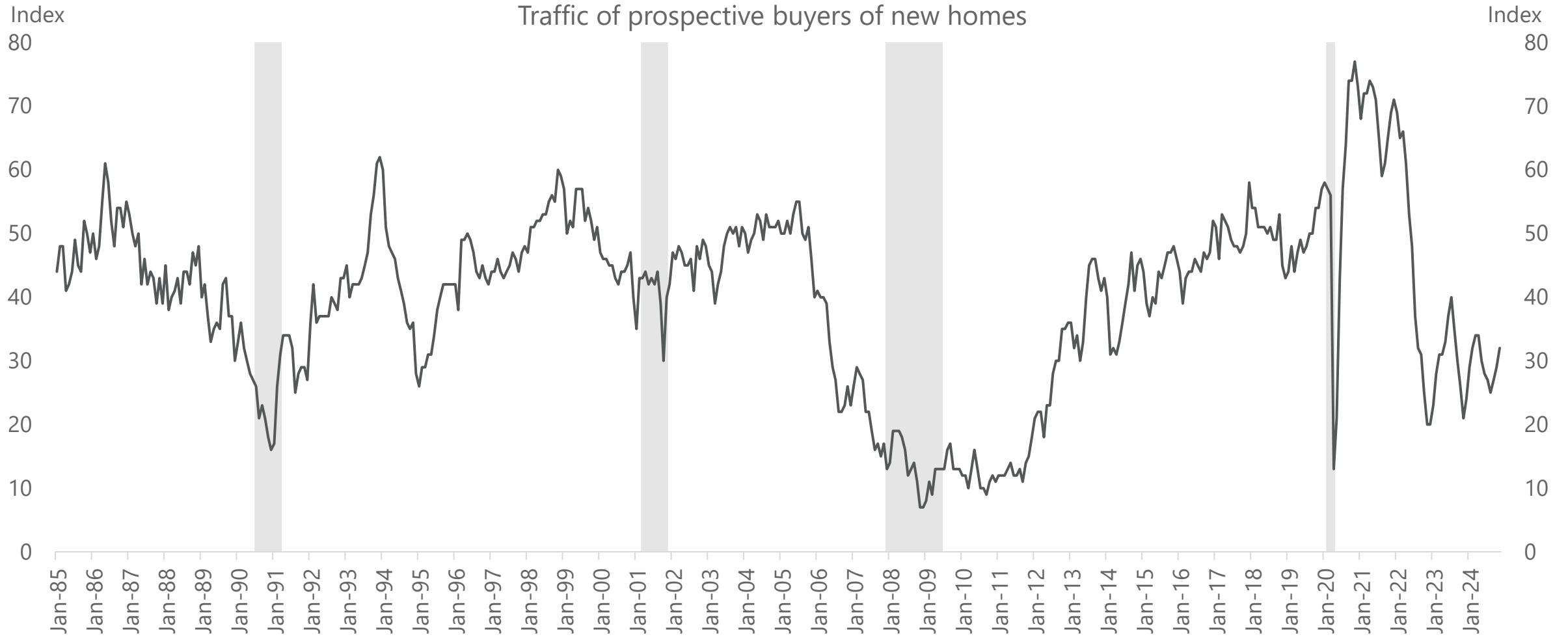


Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus

Homebuyer and homebuilder confidence lower because of affordability

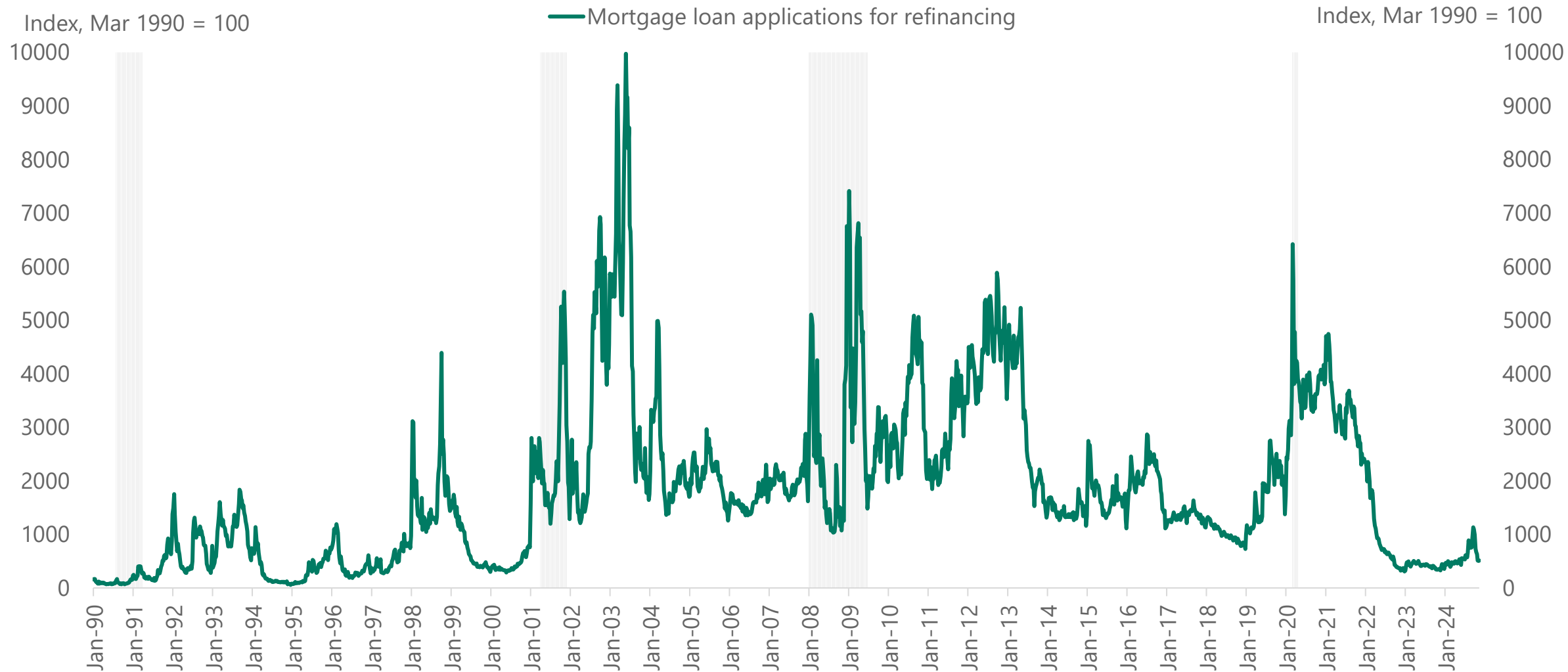


Traffic of prospective homebuyers



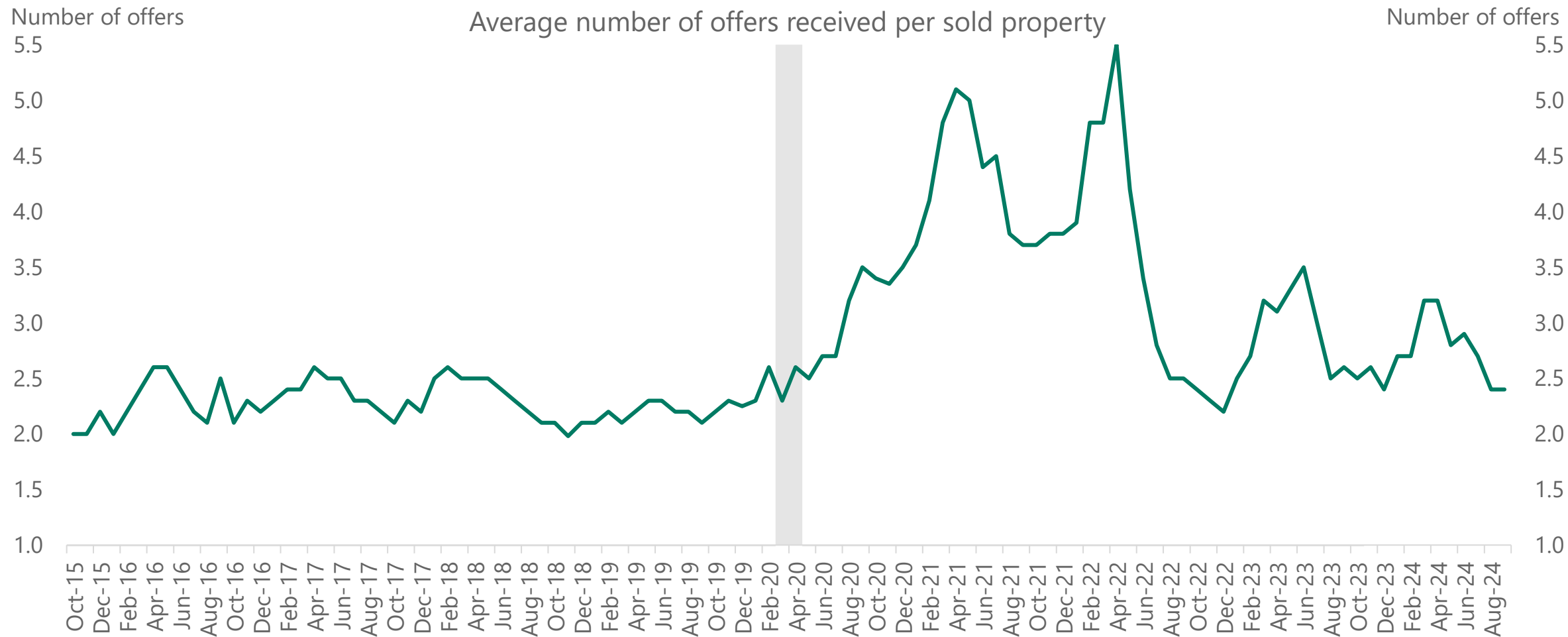
Source: National Association of Homebuilders, Bloomberg, Apollo Chief Economist

Decline in the number of homeowners who are refinancing their mortgage

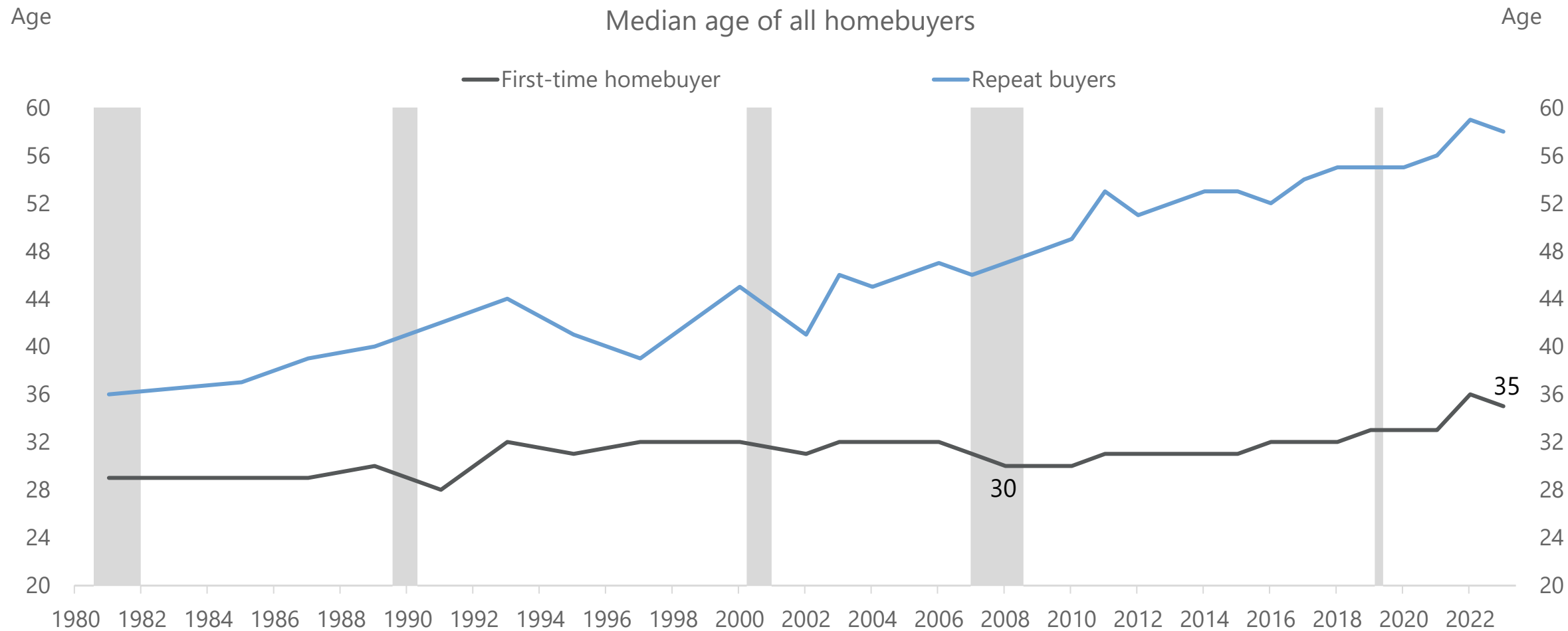


Source: Mortgage Bankers Association, Bloomberg, Apollo Chief Economist

Average number of offers received per sold property

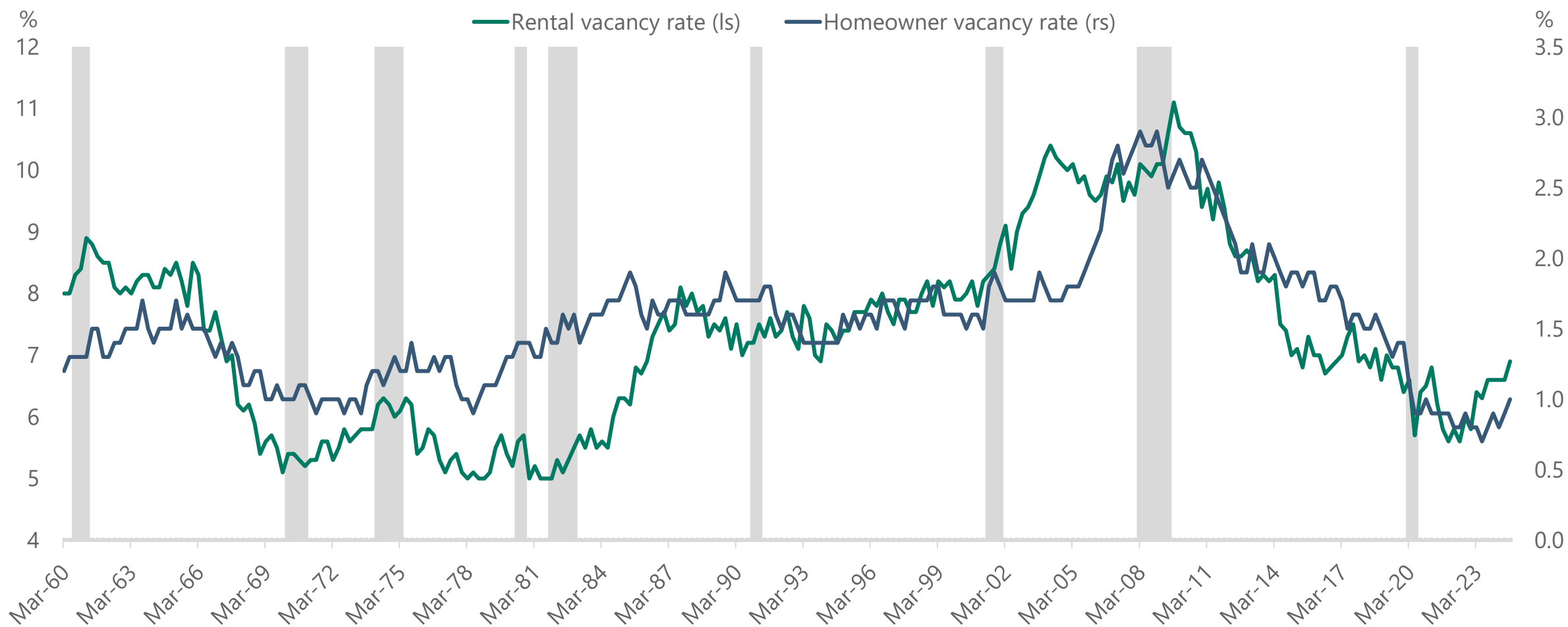


The median age of first-time homebuyers has increased from 30 in 2008 to 35 today

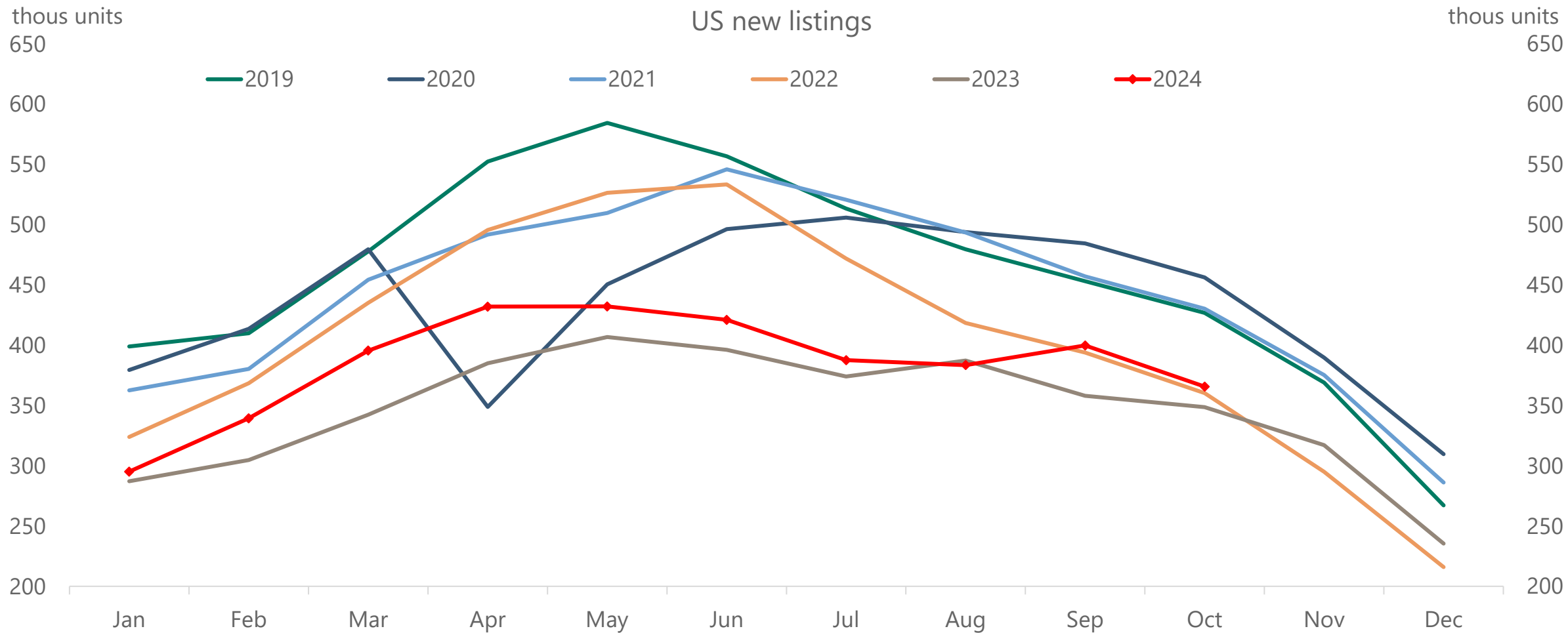


2) Housing Supply: Housing supply remains low, construction coming down from record-high levels

Homeowner vacancy rate and rental vacancy rate at low levels, but slowly moving higher



The number of newly listed homes is much lower than normal

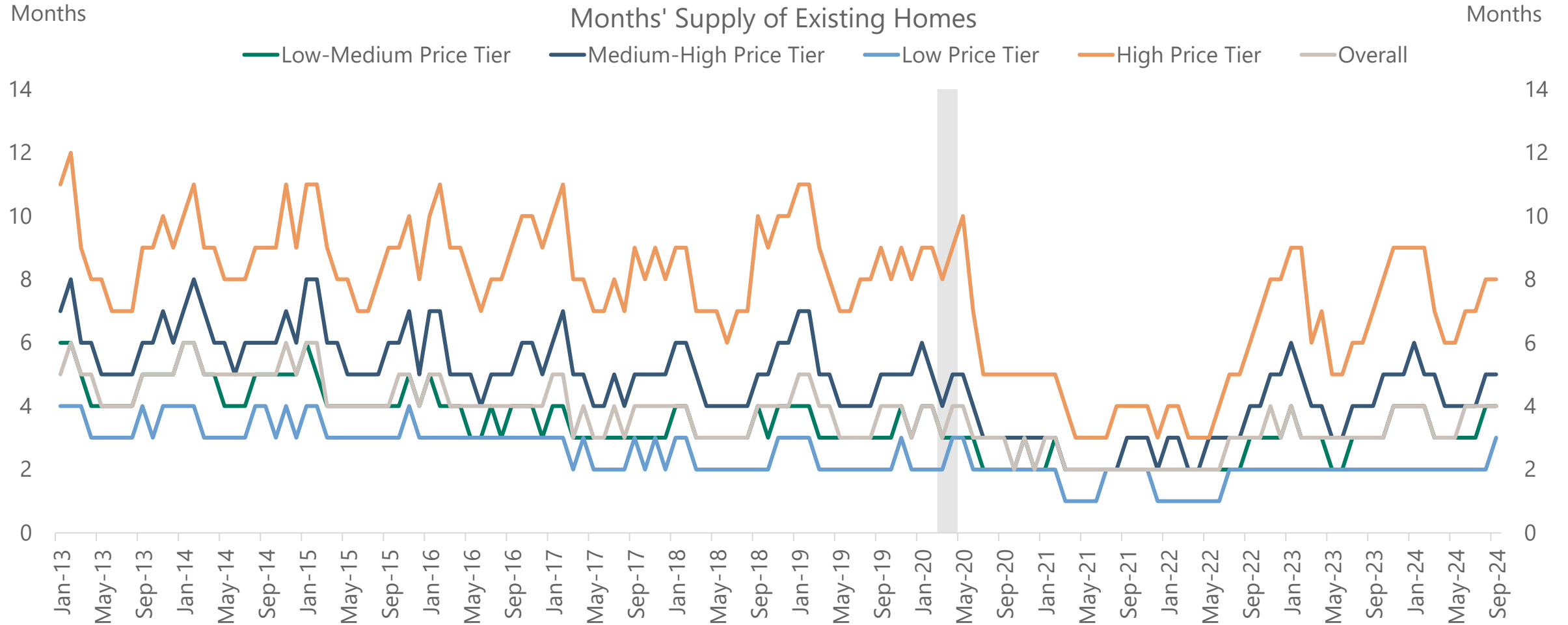


Housing supply is low: Residential new listings remain low



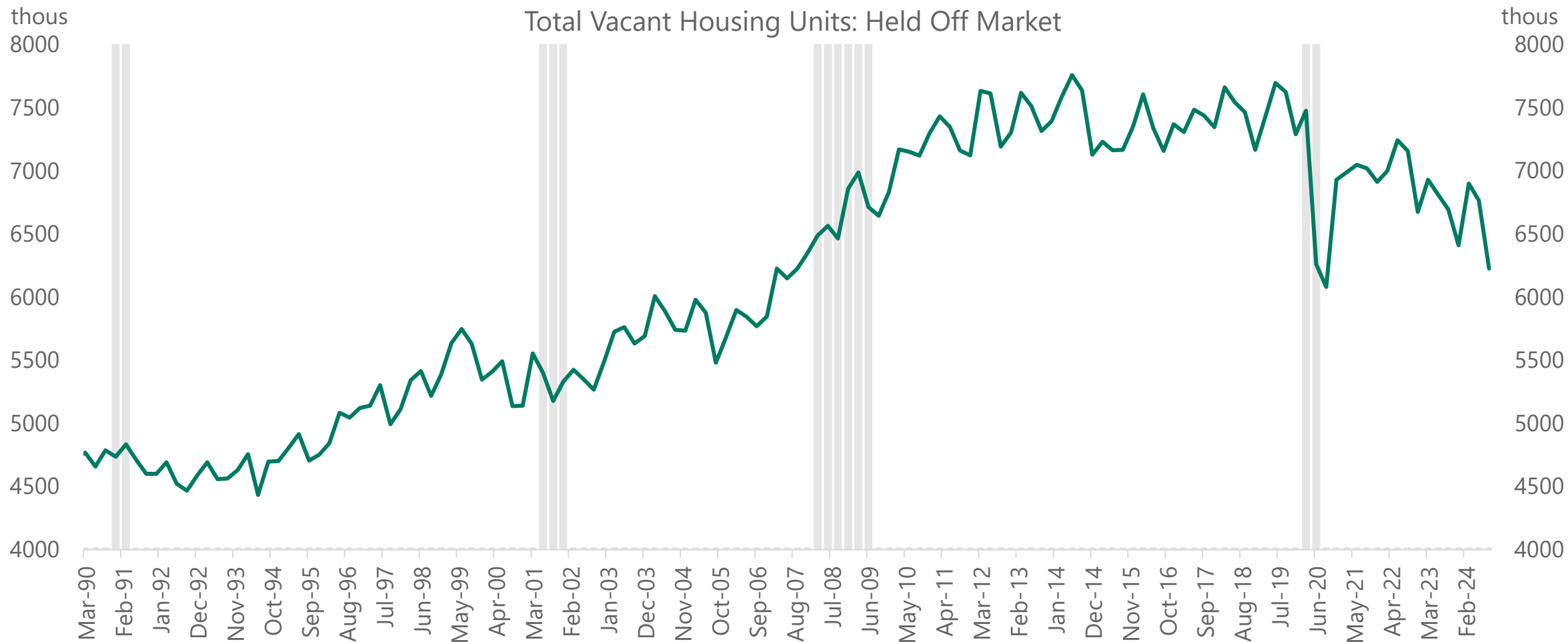
Source: Redfin, Haver Analytics, Apollo Chief Economist.

Inventory of existing homes for sale remains low across the price spectrum



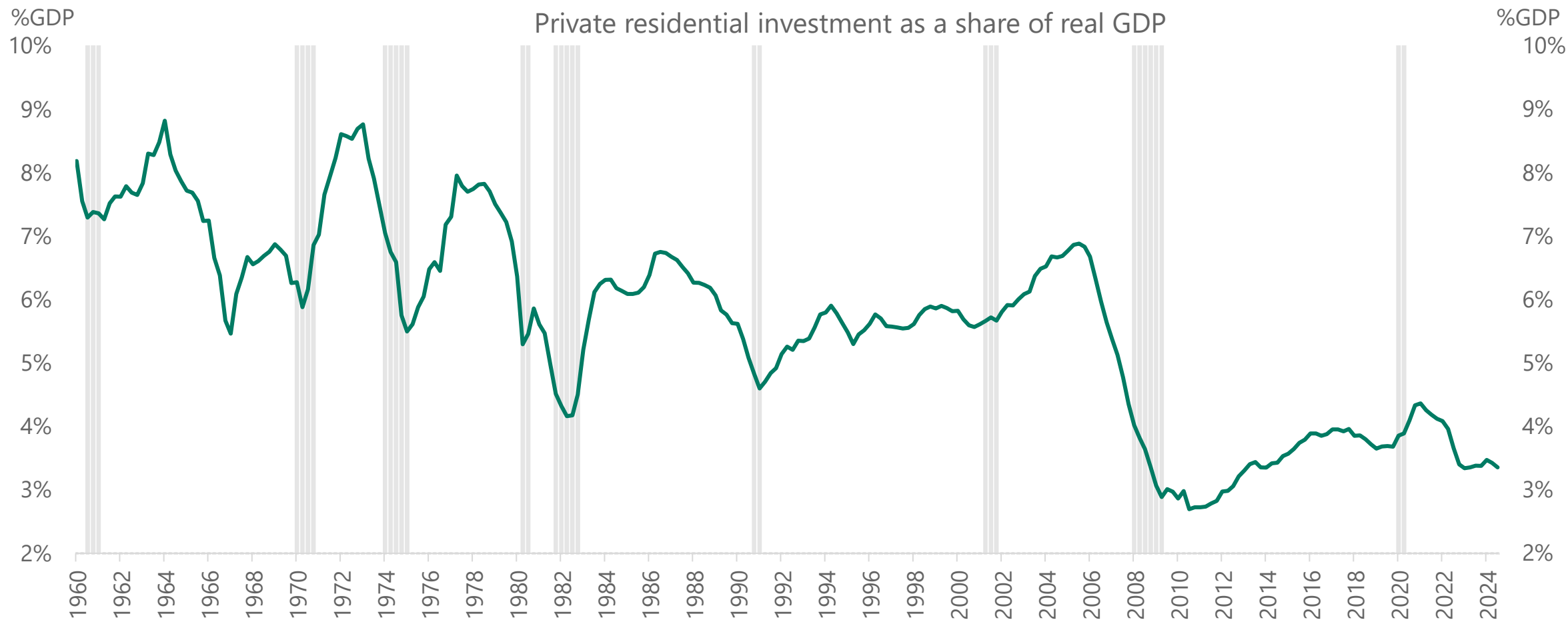
Source: American Enterprise Institute, Haver, Apollo Chief Economist

The number of vacant housing units held off market



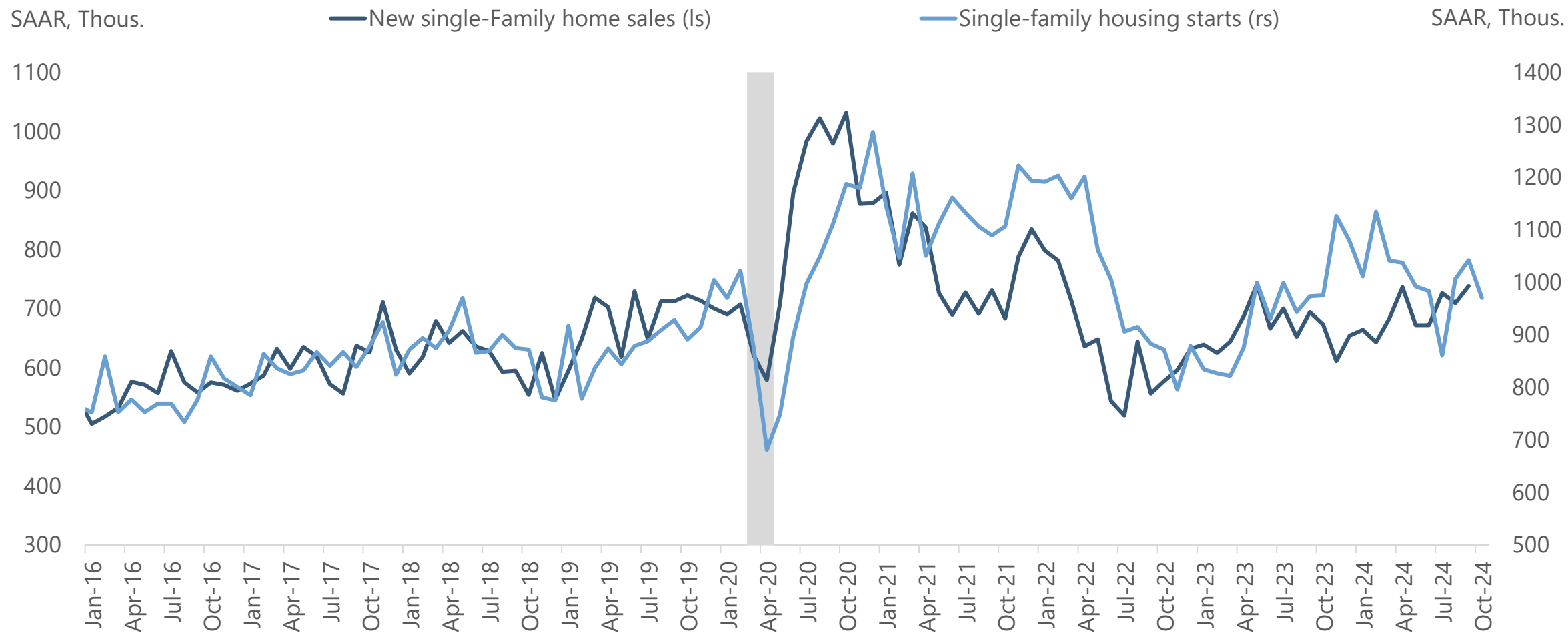
Source: Census Bureau, Haver Analytics, Apollo Chief Economist

Residential investment as a share of real GDP is close to all-time lows at 3.3%

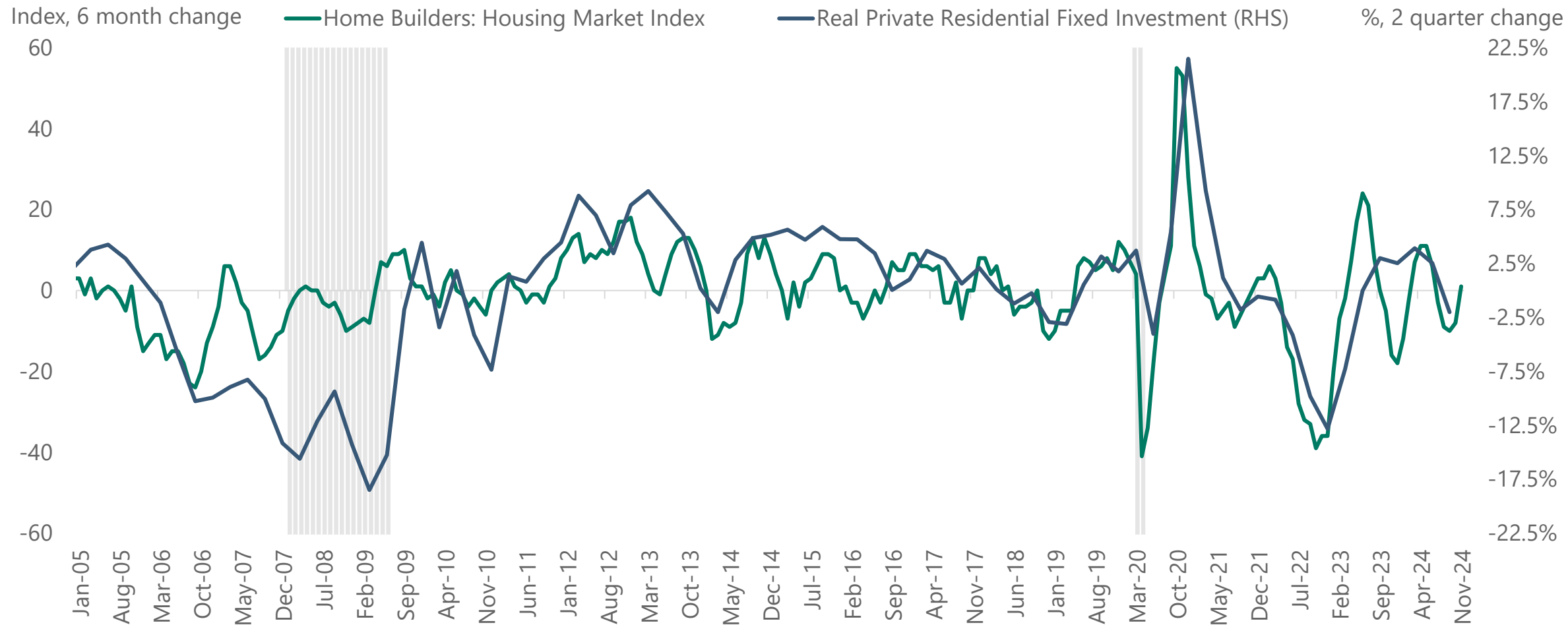


Source: BEA, Haver Analytics, Apollo Chief Economist

Housing starts slowly rebounding

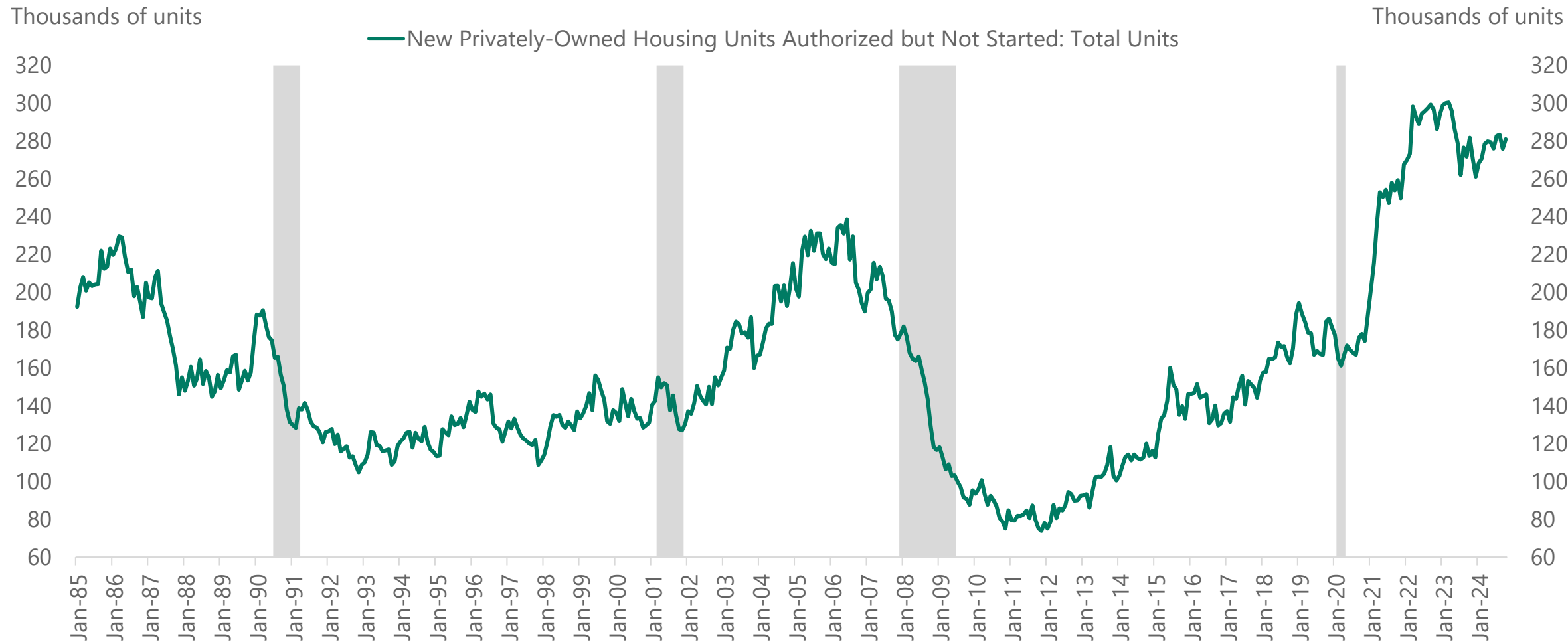


Homebuilder confidence correlated with residential investment

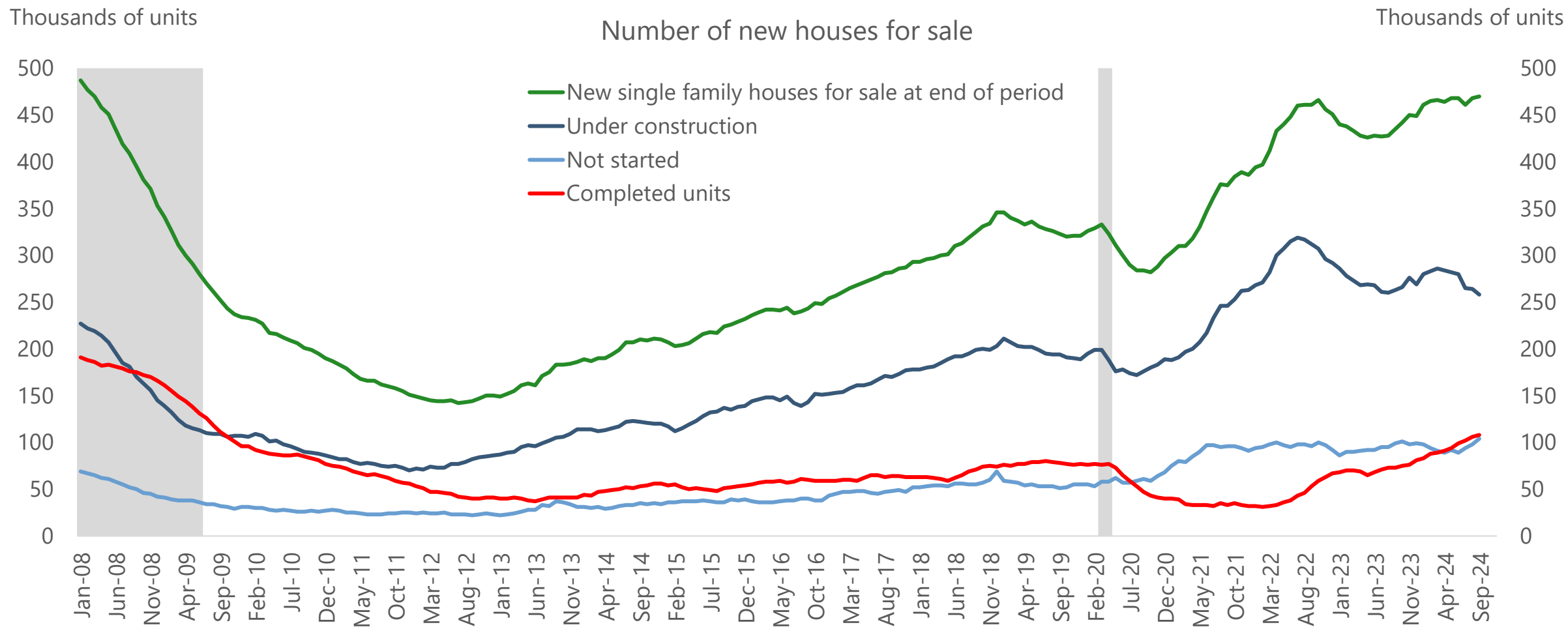


Source: BEA, NAHB, Haver Analytics, Apollo Chief Economist

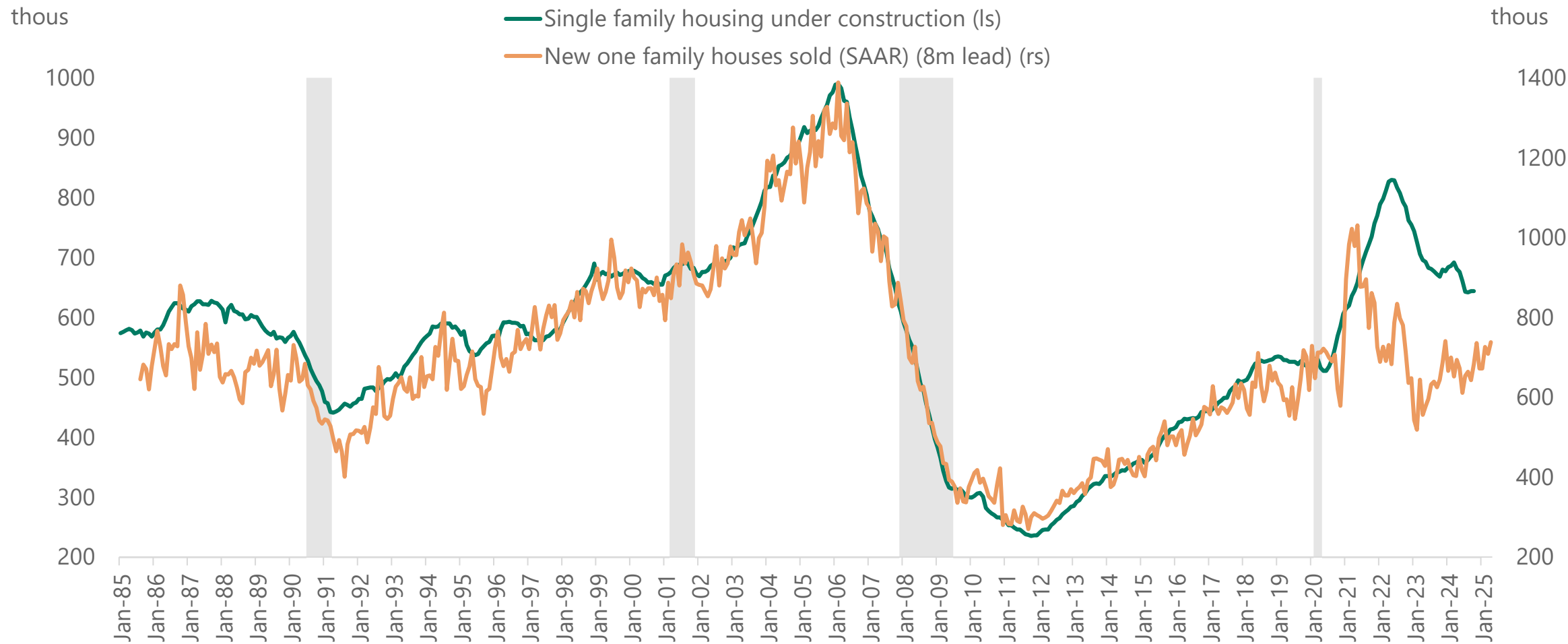
Very high level of new housing units authorized but not started



Number of new houses for sale

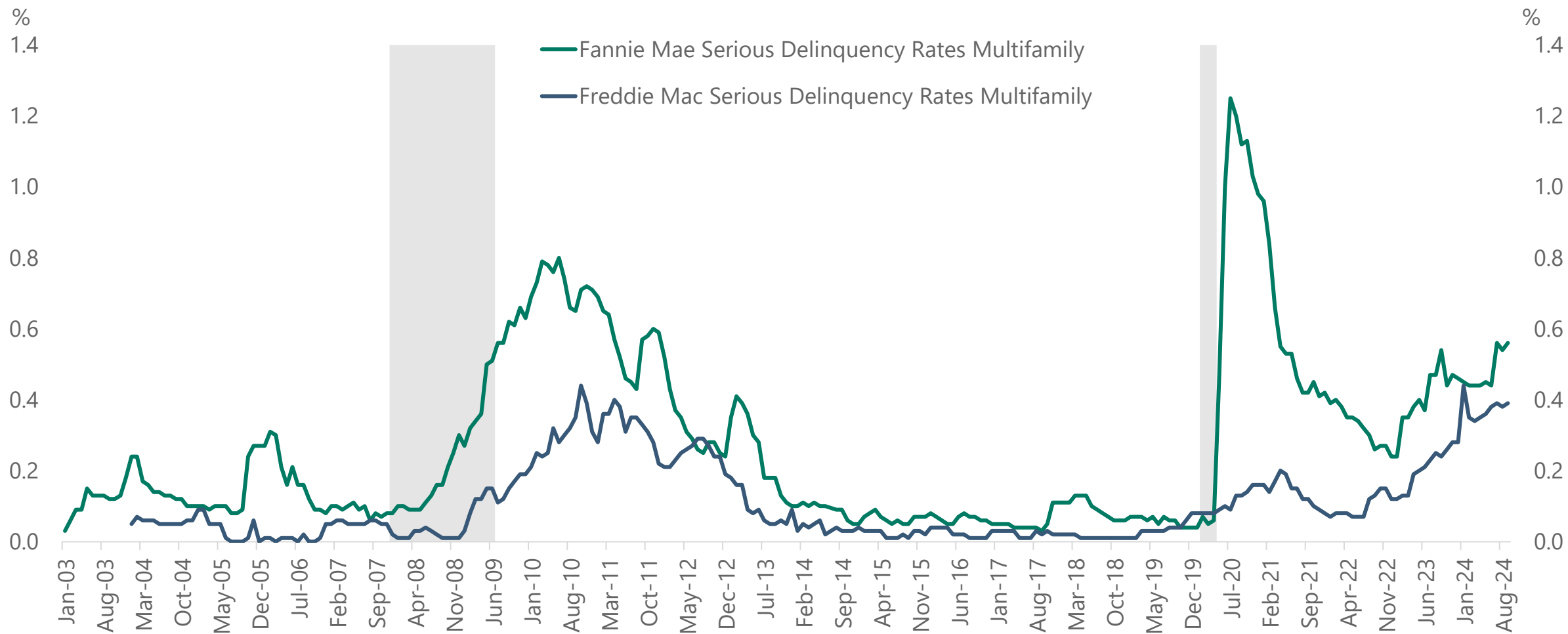


Some disconnect between housing under construction and new homes sold

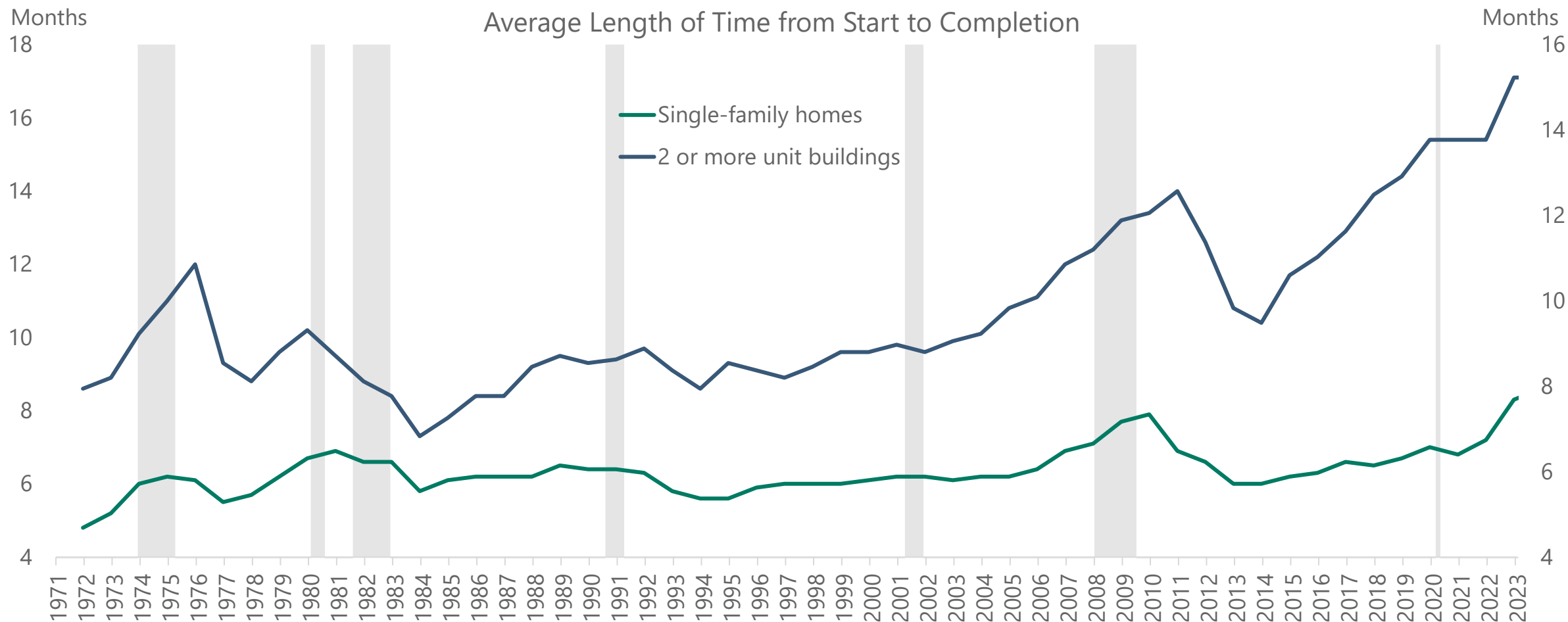


Source: Census Bureau, Bloomberg, Apollo Chief Economist.

Multifamily delinquencies rising

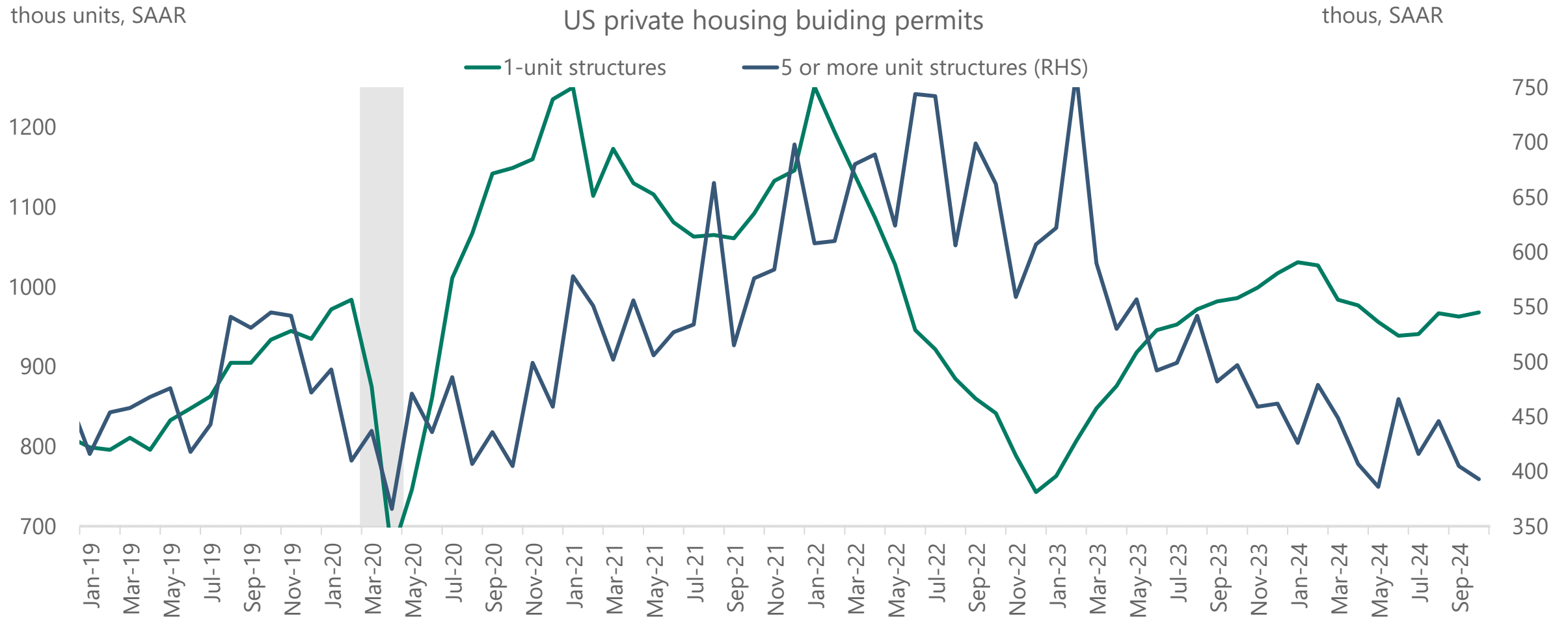


It currently takes 8 months on average to build a single-family house



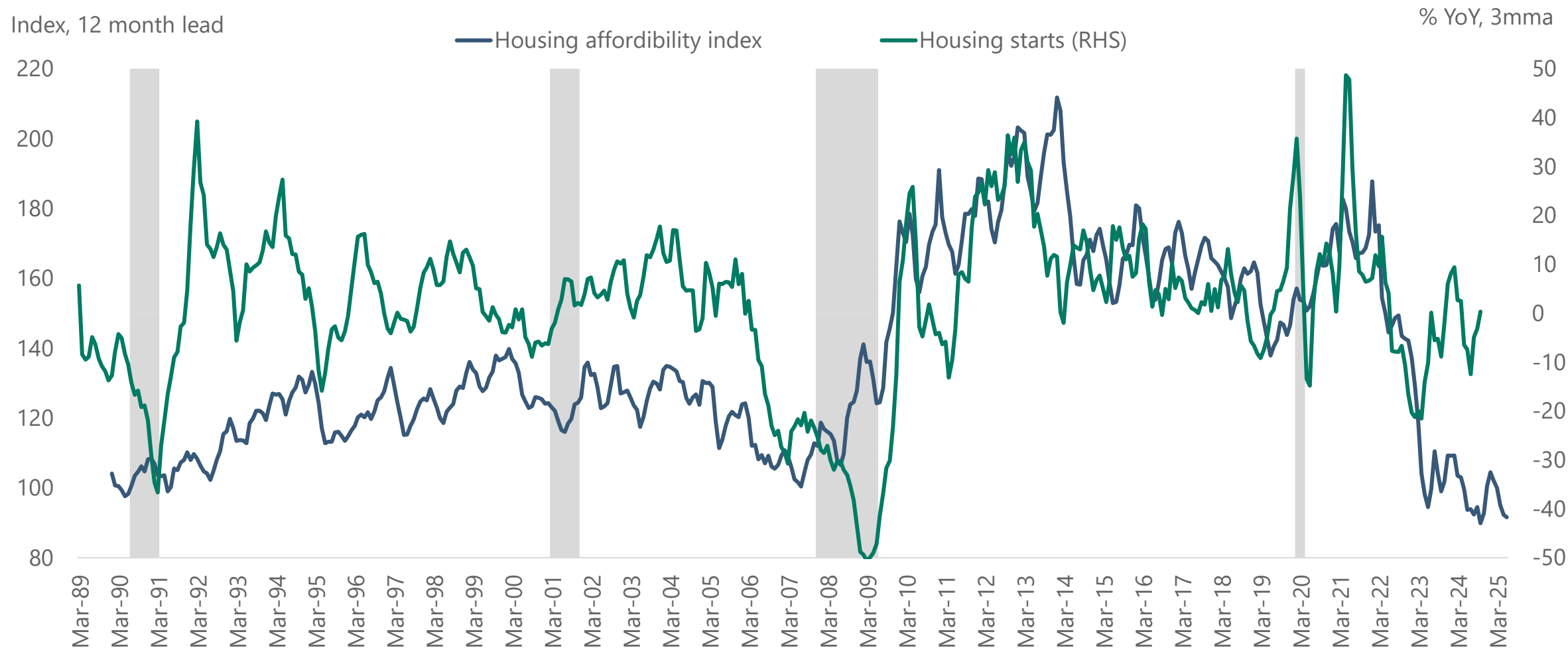
Source: Census, Haver Analytics, Apollo Chief Economist. Note: Single family homes are 1 unit buildings

Multi-family units authorized going down, and single-family housing units authorized moving sideways

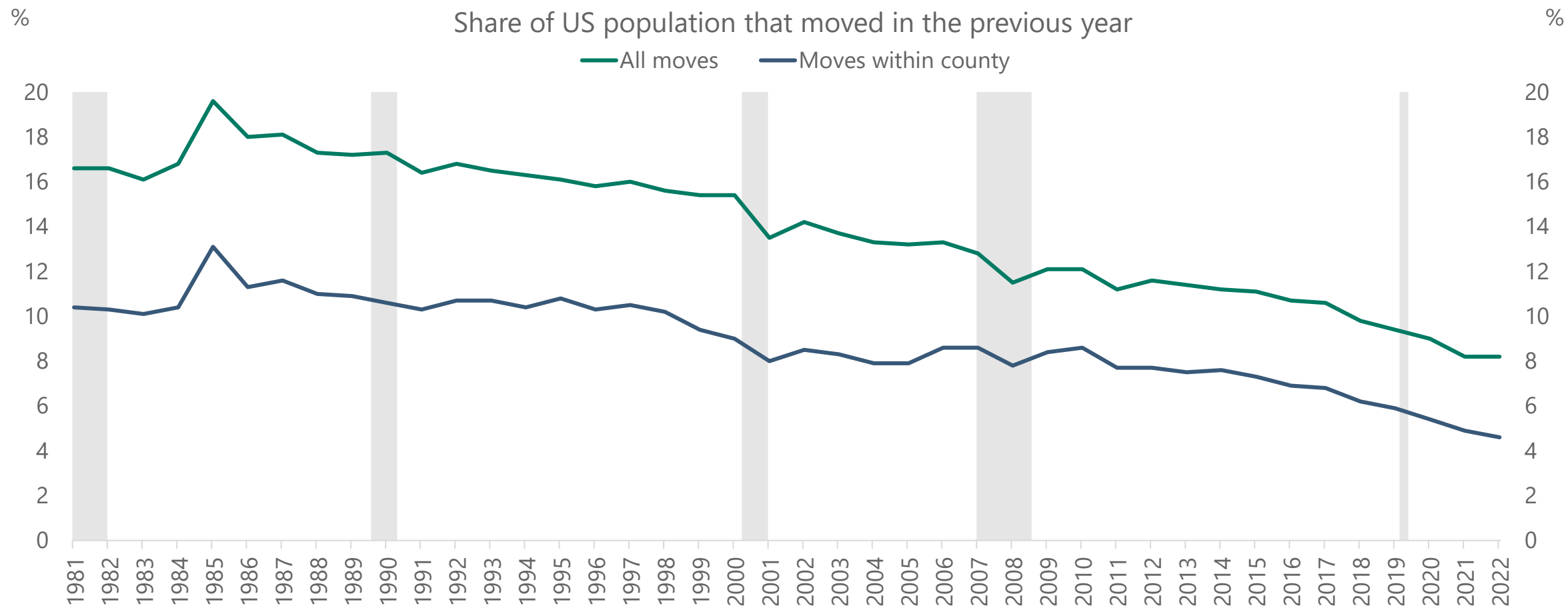


Source: Census Bureau, Haver Analytics, Apollo Chief Economist

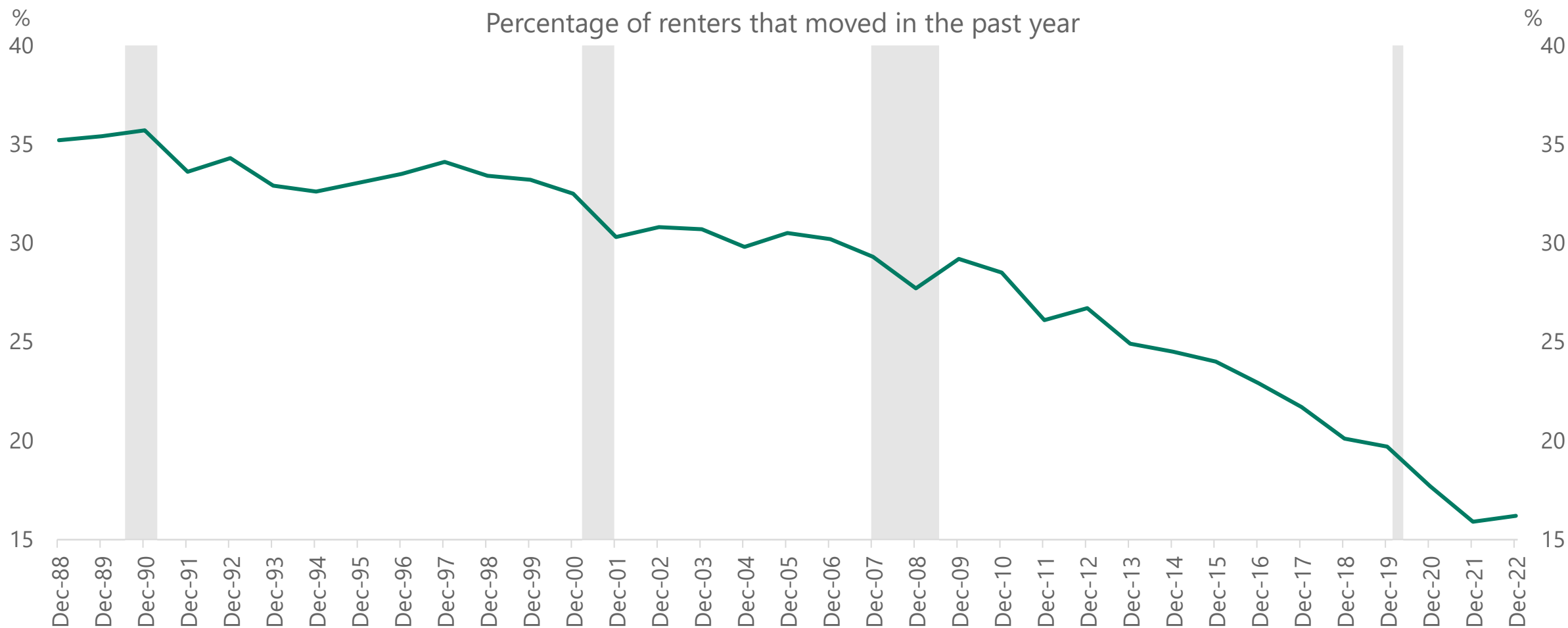
Housing starts high despite low affordability



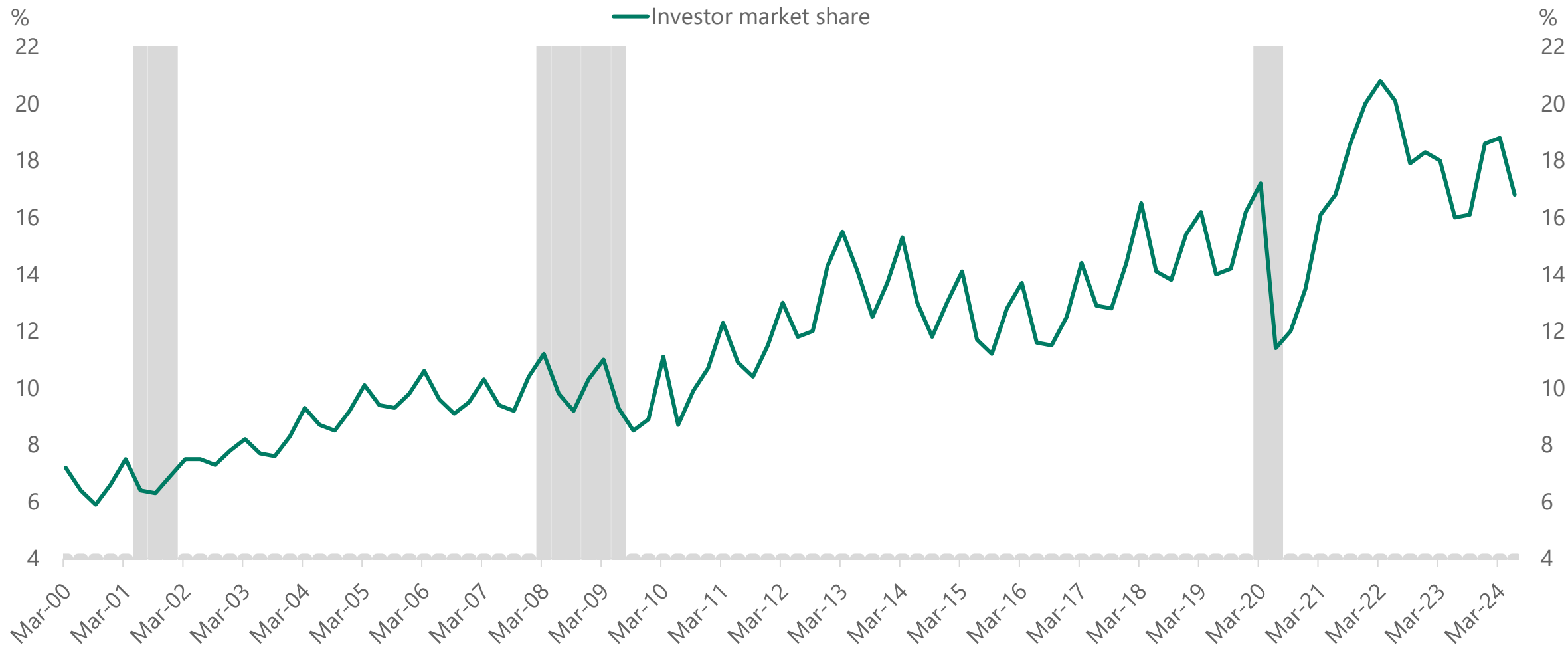
Structural decline in the share of the US population moving to a new address



Trend decline in the percentage of renters moving to new apartments or houses



The investor share of home purchases still elevated



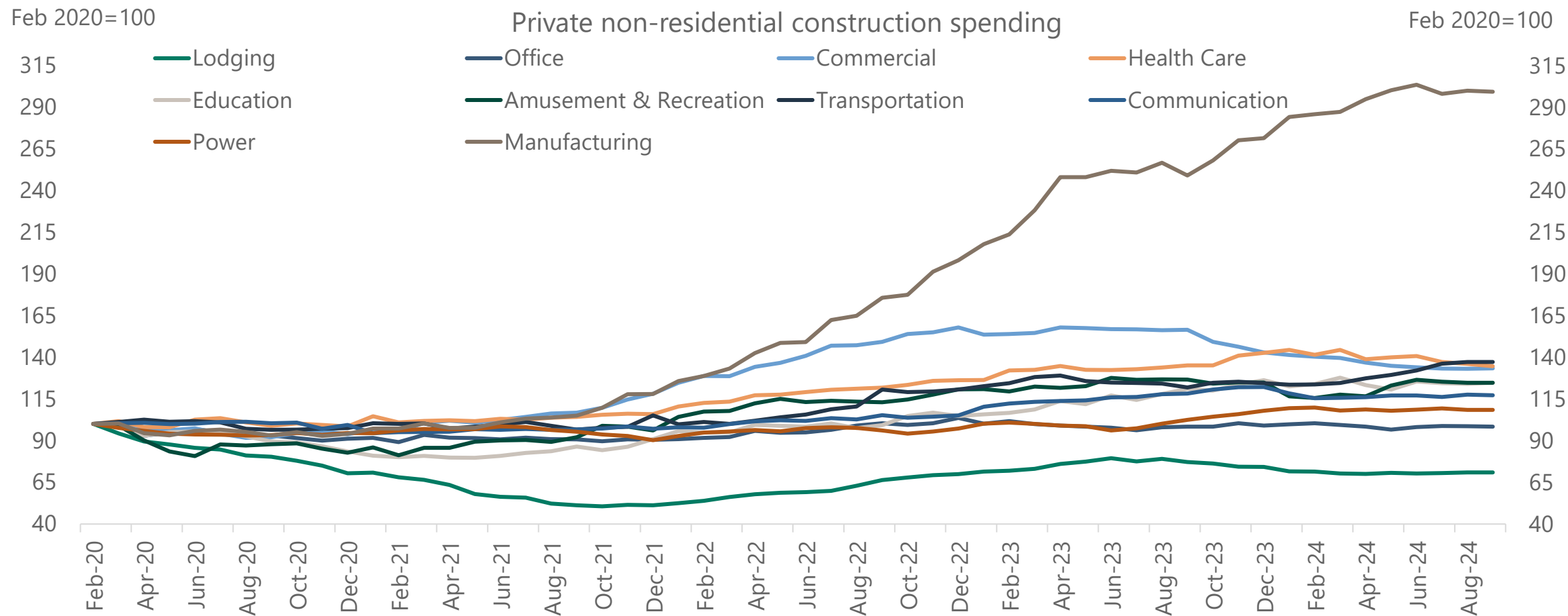
Source: Redfin, Apollo Chief Economist. Definition of Investor market share: the percentage of total home sales in which an investor was the buyer.

Steady growth in employment in residential construction

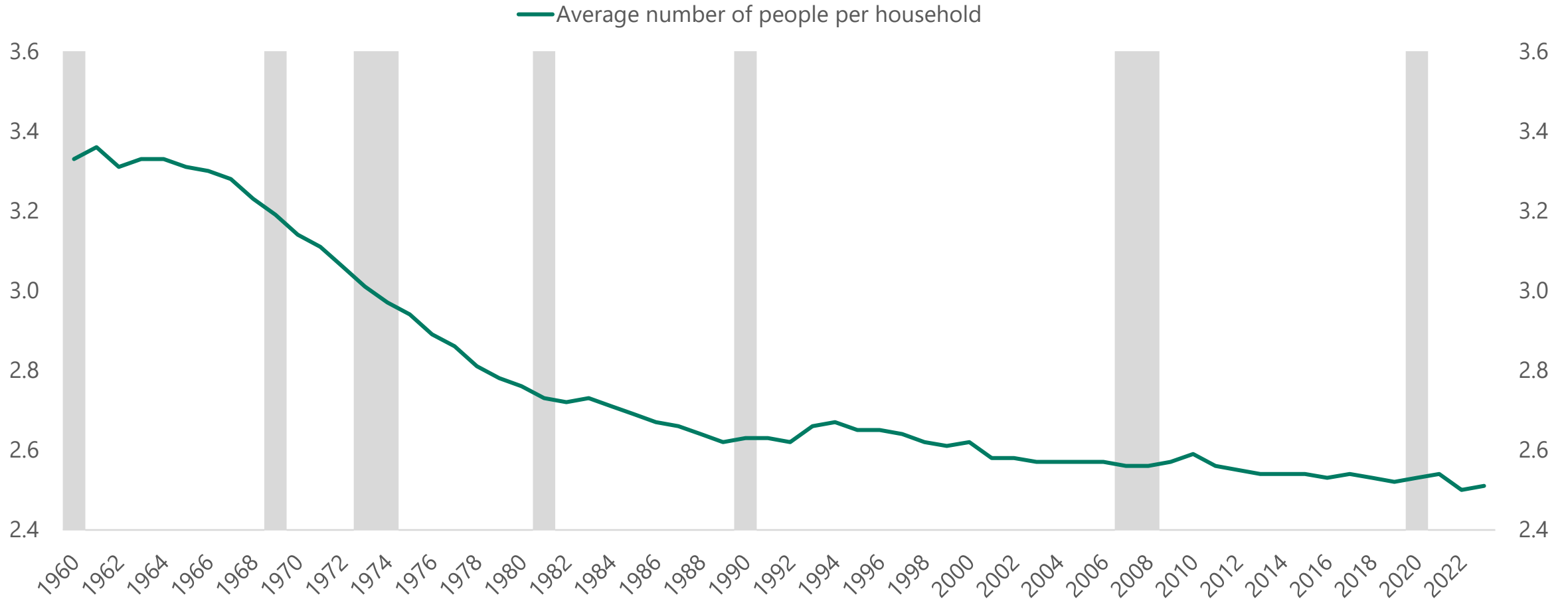


Source: BLS, Haver Analytics, Apollo Chief Economist

The biggest increase in non-residential construction has been in manufacturing

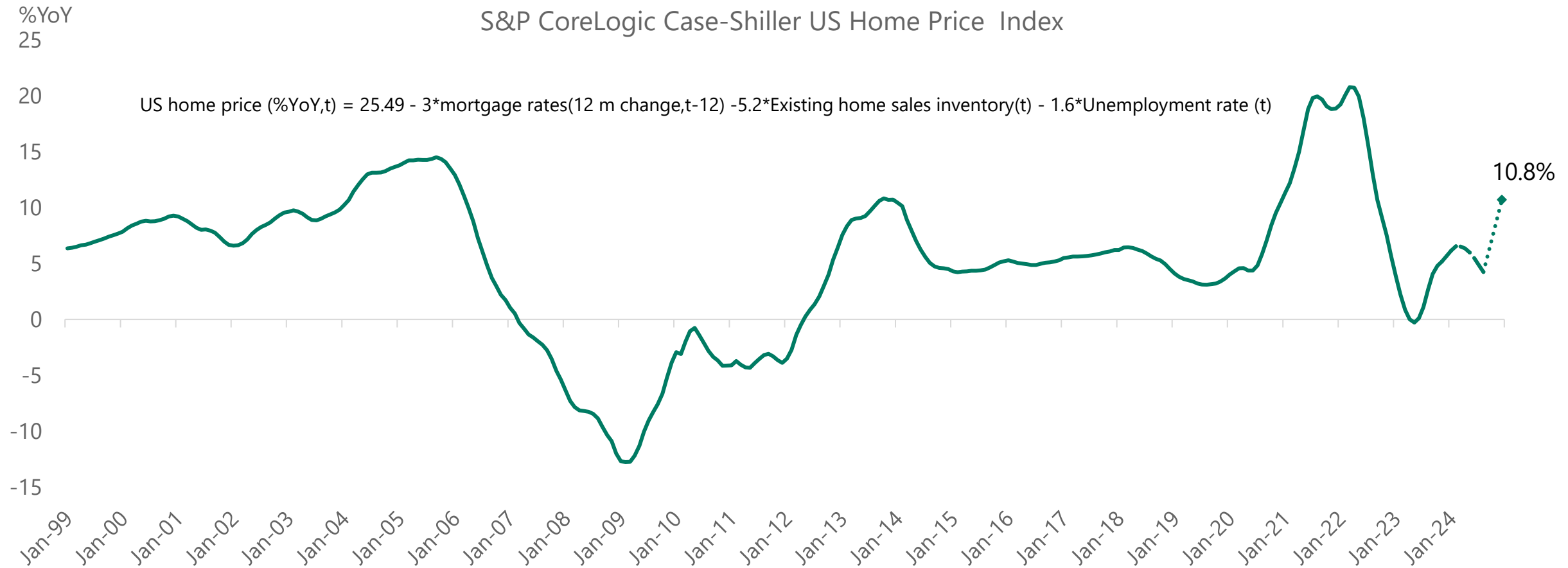


The average family size in the US has declined from 3.3 in 1960 to 2.5 by 2023

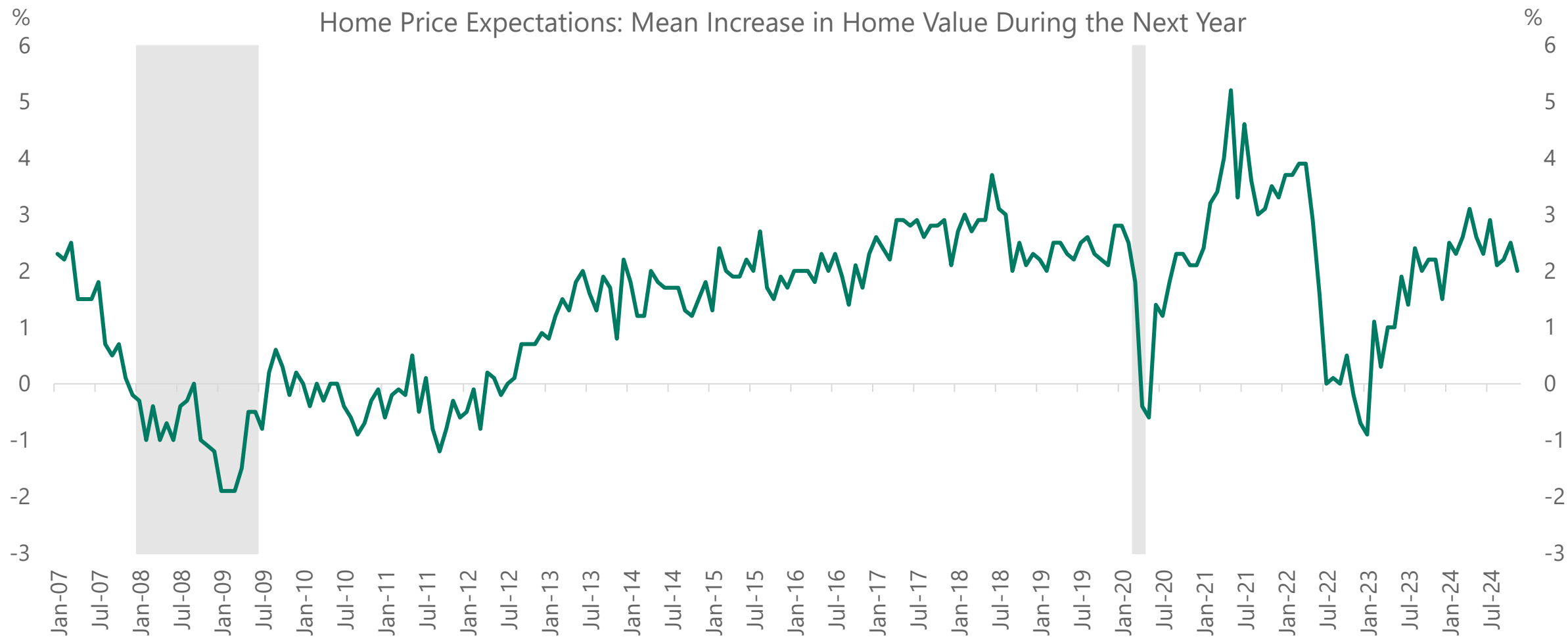


3) House Prices: Low inventory and low unemployment outweighing negative effects of higher mortgage rates

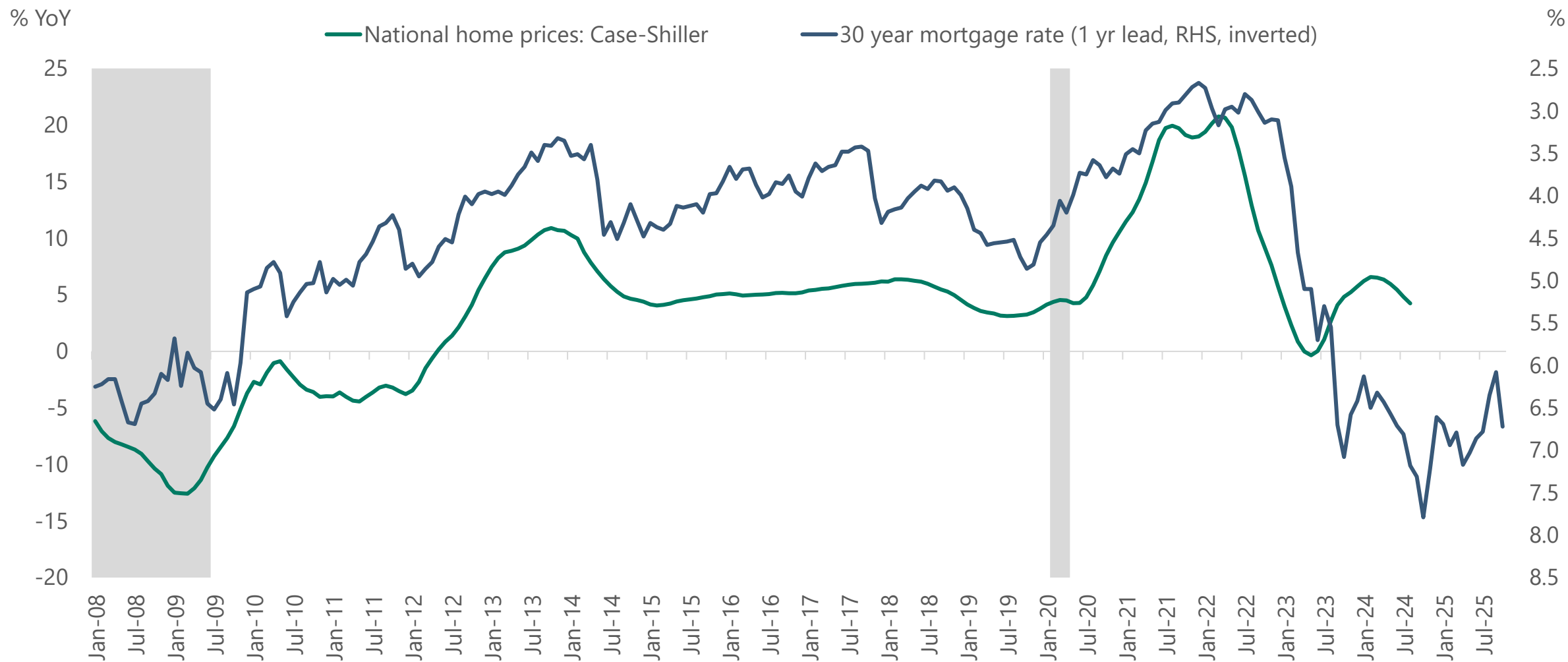
US house price model: Rising mortgage rates pushing home prices lower. Low inventory and low unemployment pushing home prices higher.



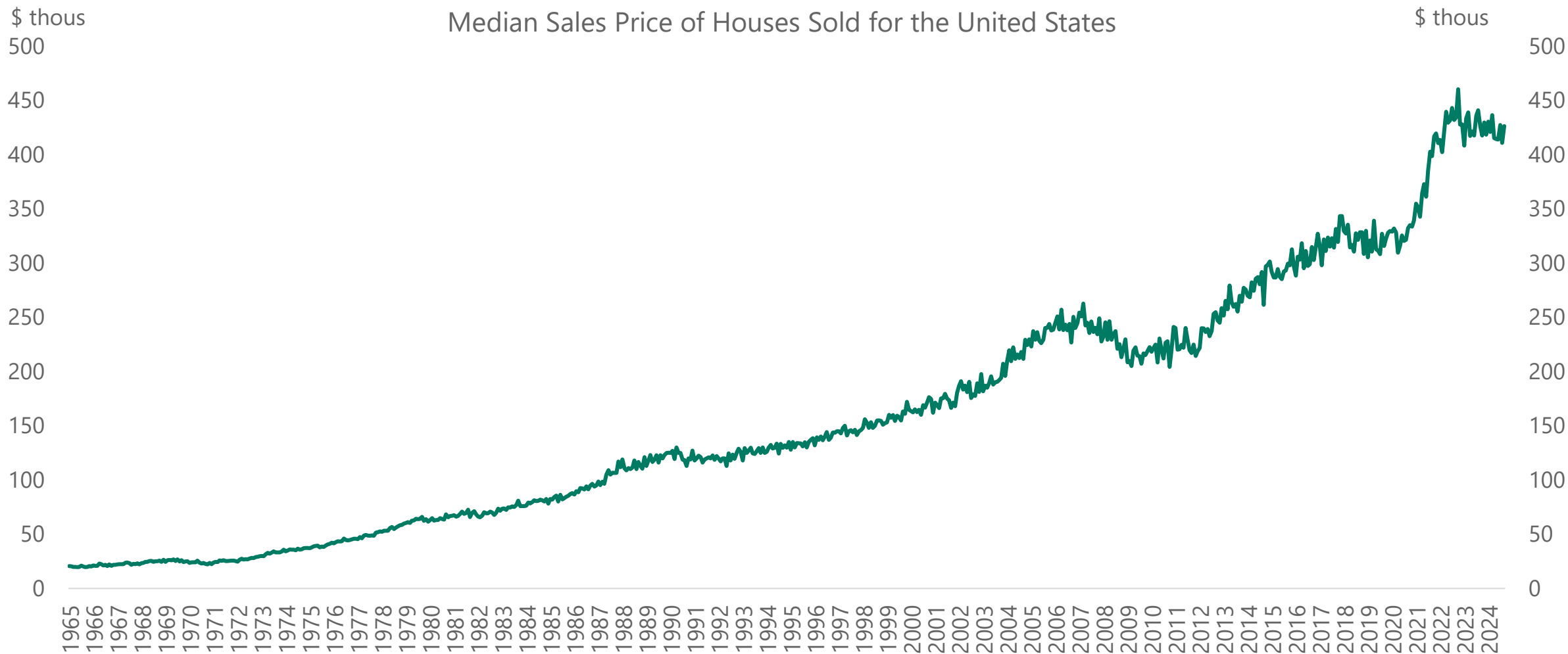
Consumers' expectations of home price inflation



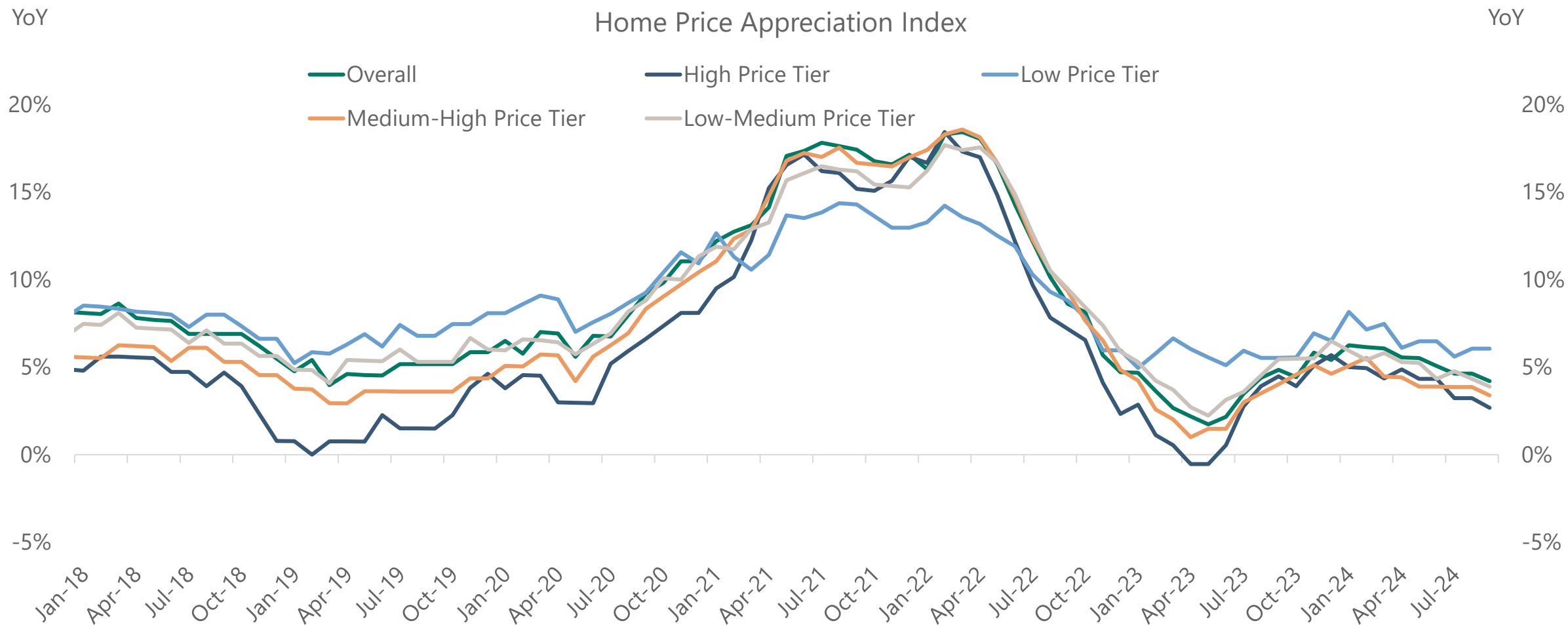
Disconnect between mortgage rates and home prices because of low housing supply



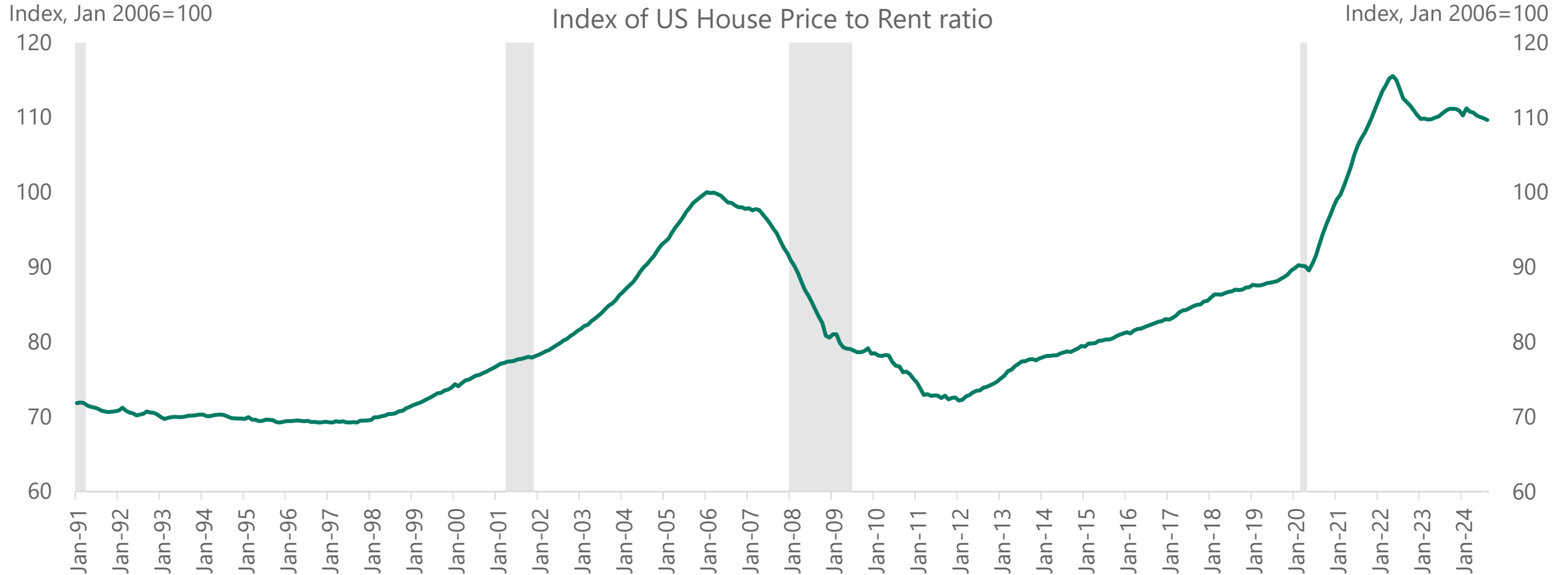
The median home sales price is \$430K



House price inflation slowing down across price tiers

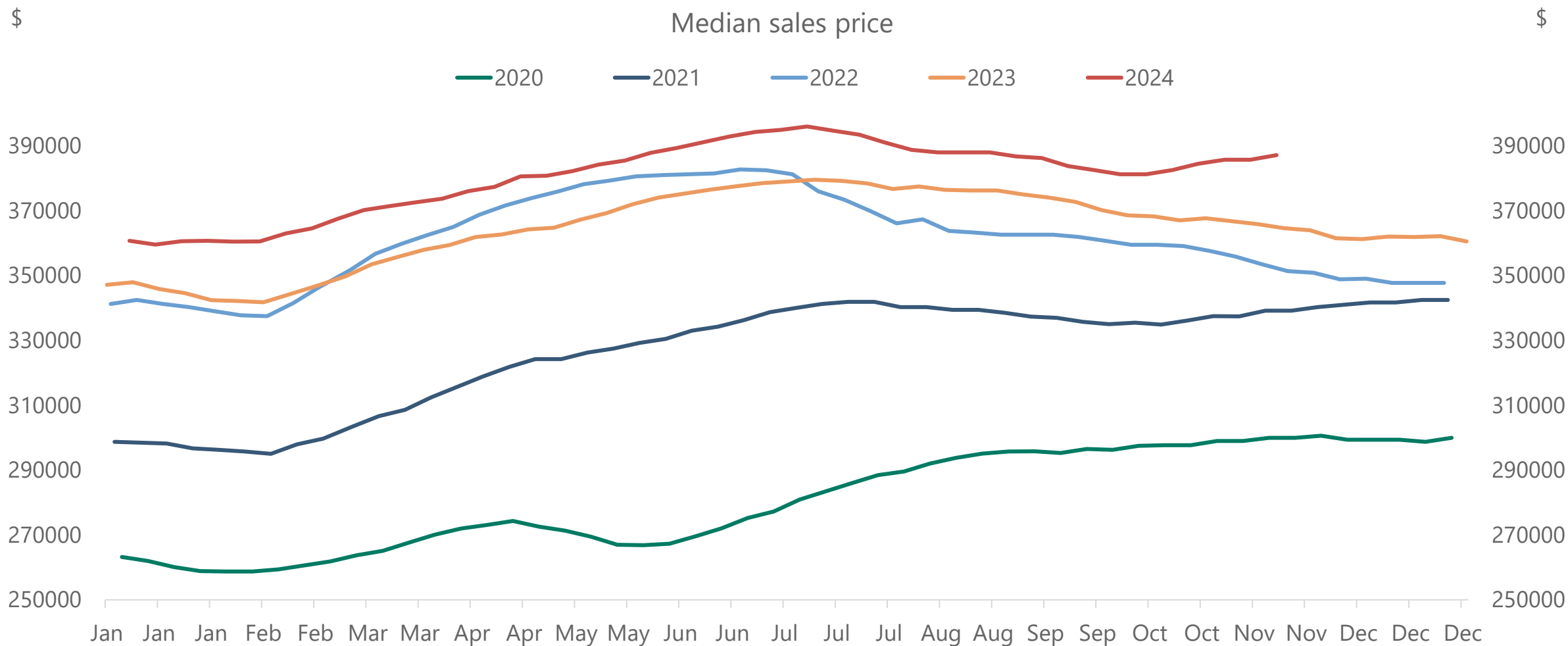


Home price to rent ratio significantly above 2006 levels

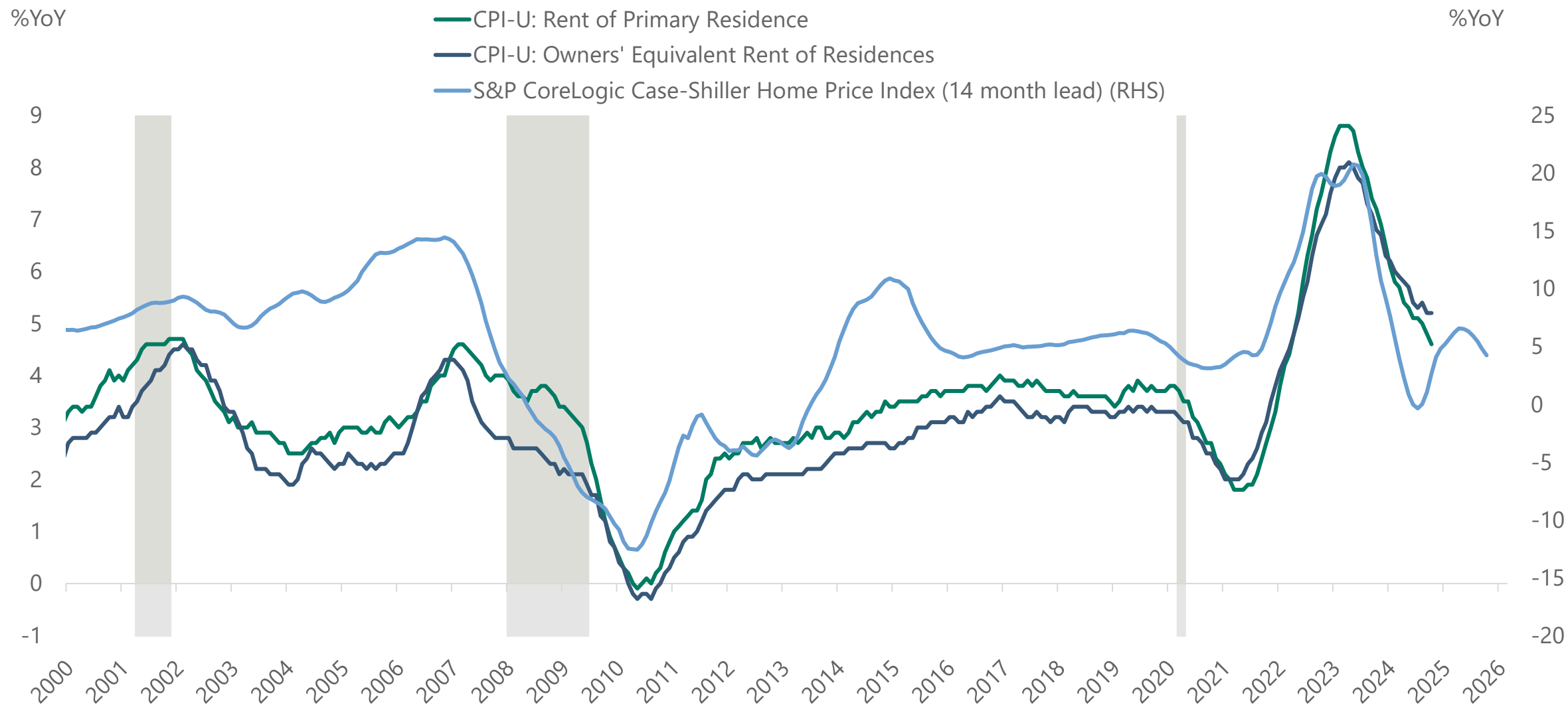


Source: FHFA, BLS, Apollo Chief Economist. Note: the series is indexed ratio of FHFA monthly purchase only house price index divided by the OER component of the CPI.

Median sales price well above last year's levels

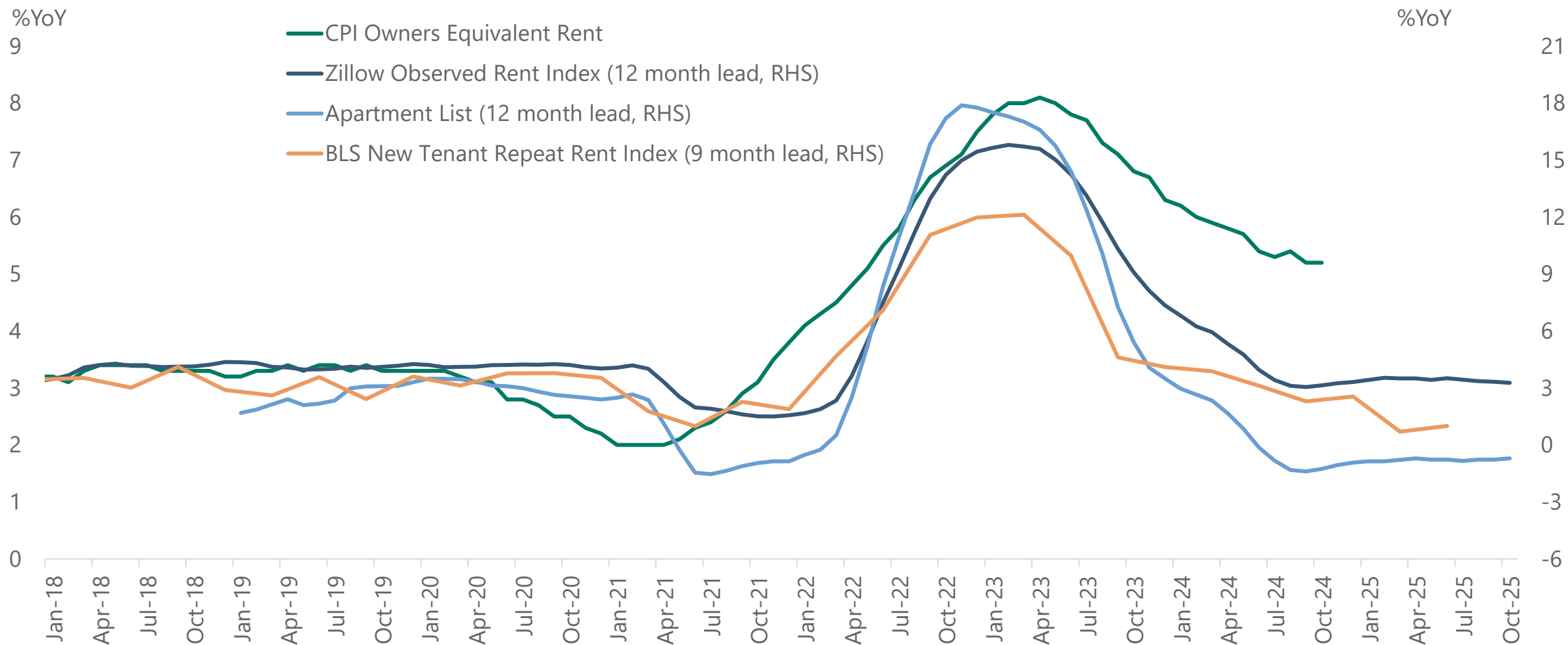


Rebound coming in housing inflation?

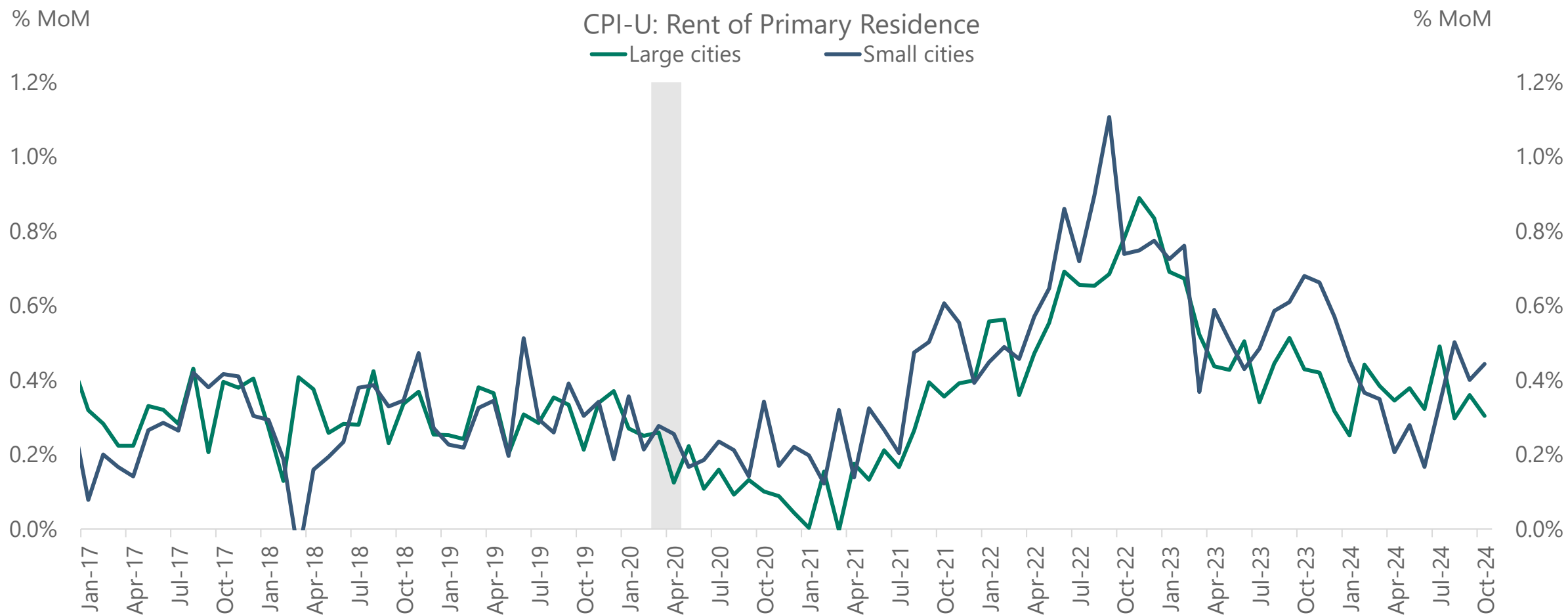


Source: Haver Analytics, BLS, S&P, Apollo Chief Economist

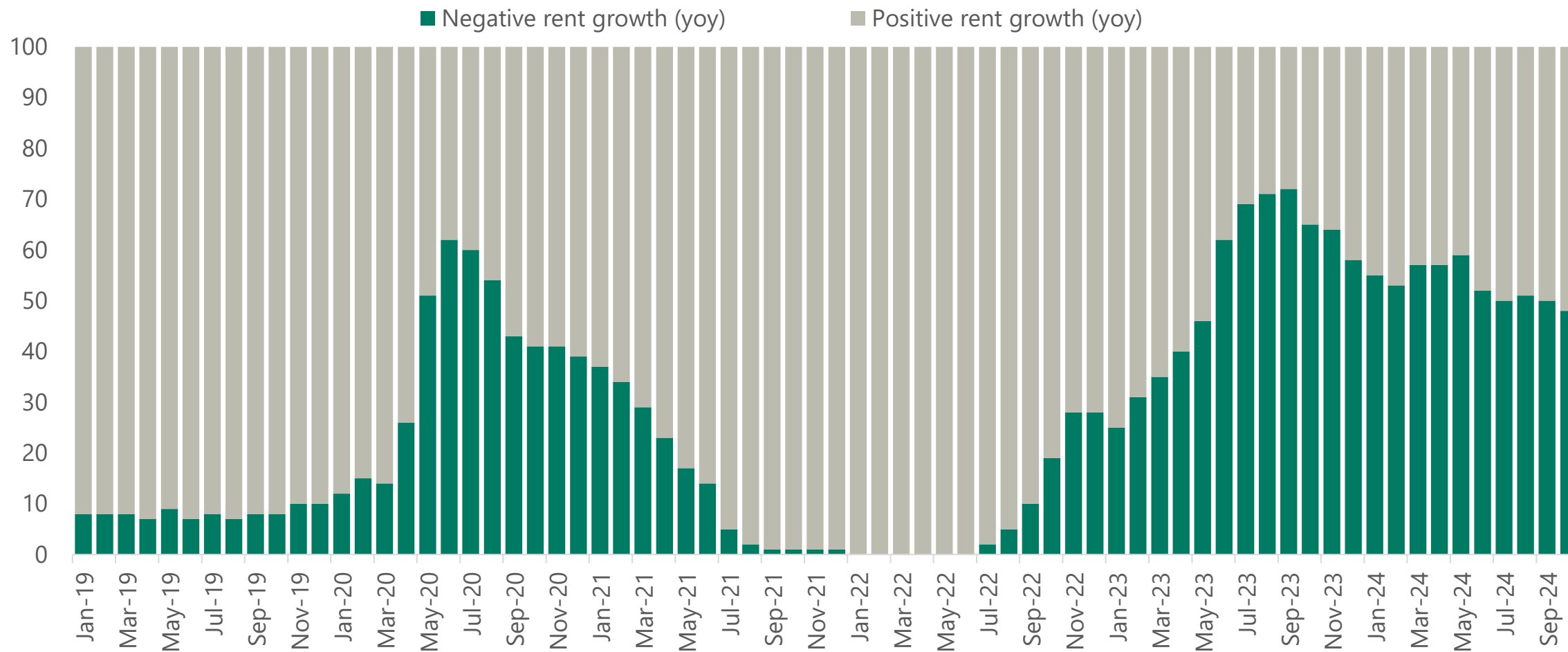
OER housing inflation beginning to move sideways?



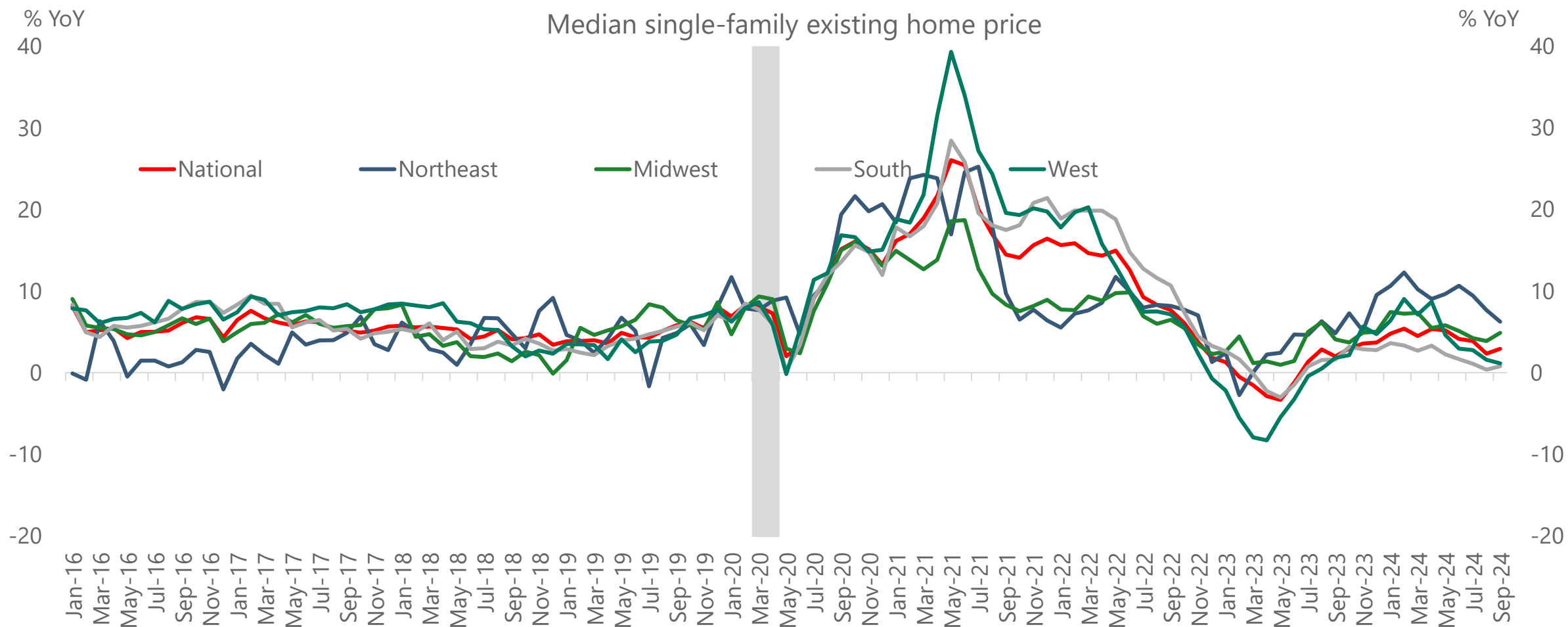
Rent inflation moving higher in small cities



100 largest US cities: Share of cities with positive rent growth: 52%



Home price inflation solid because of low inventory of homes for sale



County median home prices

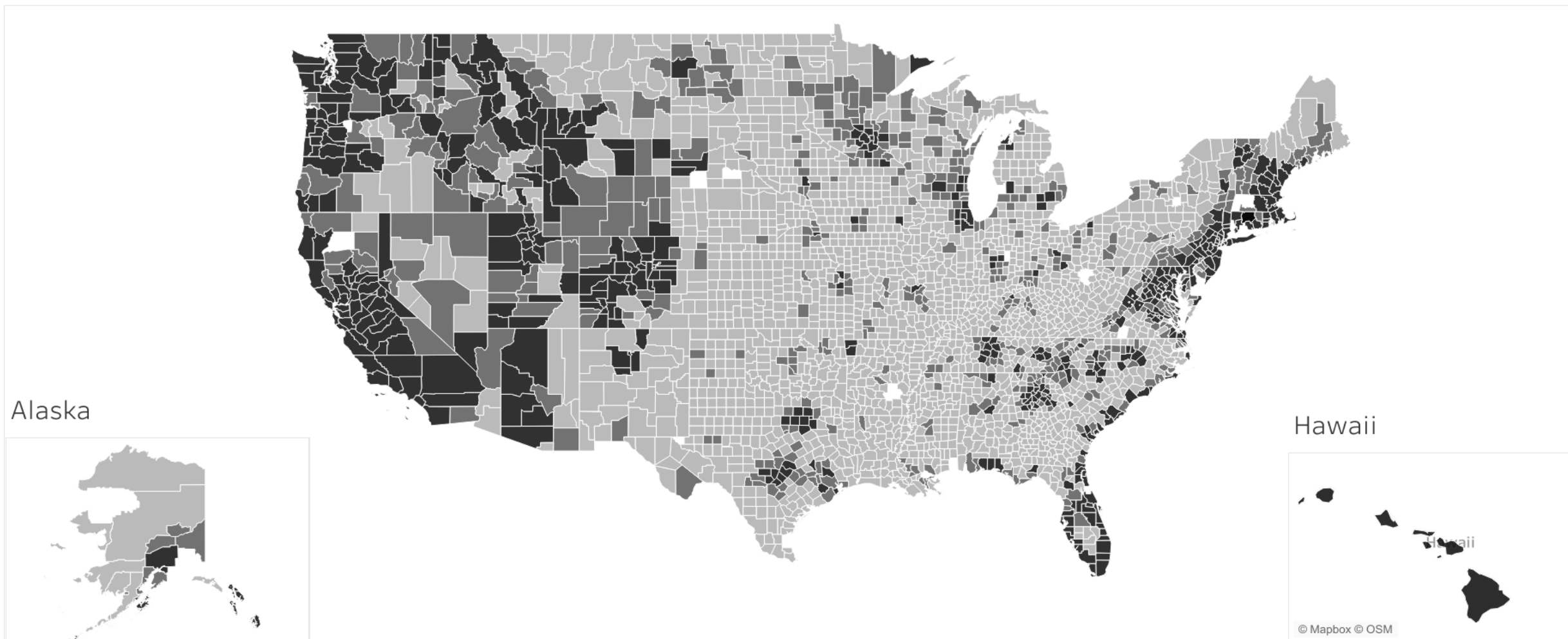
Median home prices by county, Q1 2024

Median price (\$)

■ <\$250k

■ \$250 - \$350k

■ >\$350k



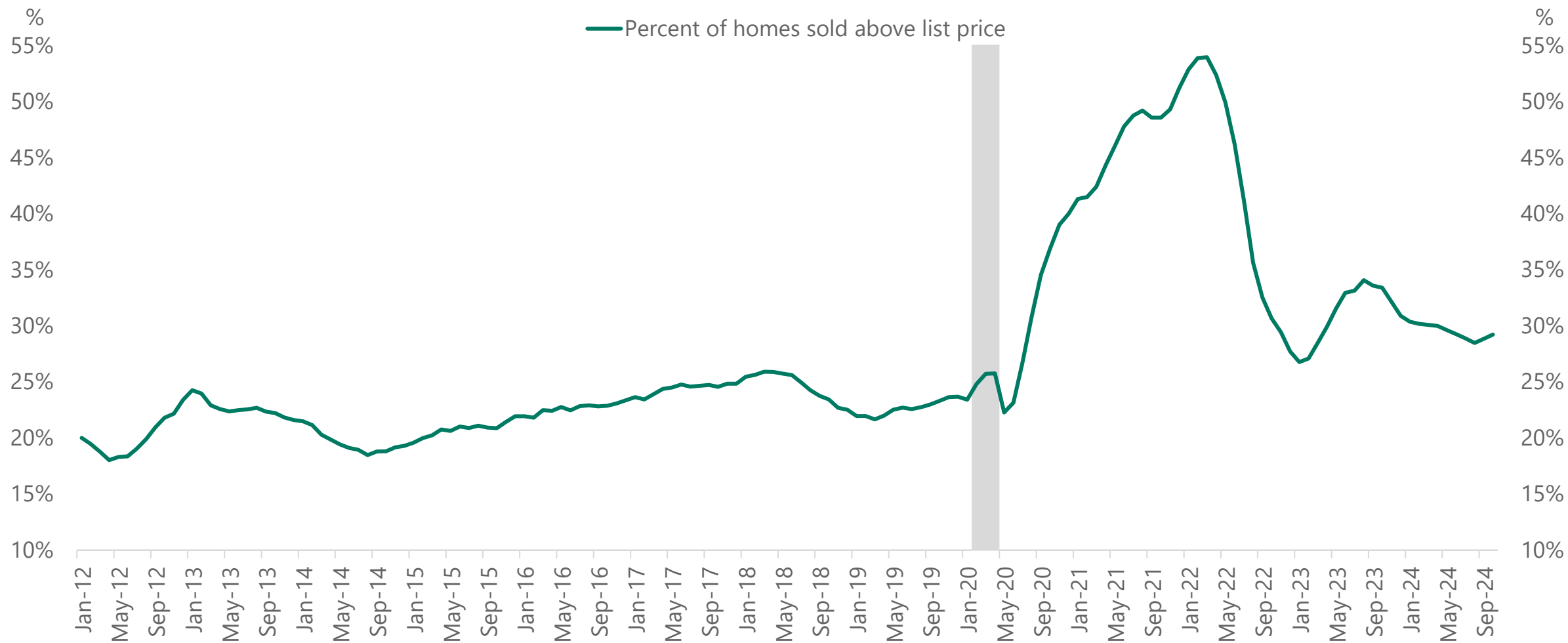
Alaska



Hawaii



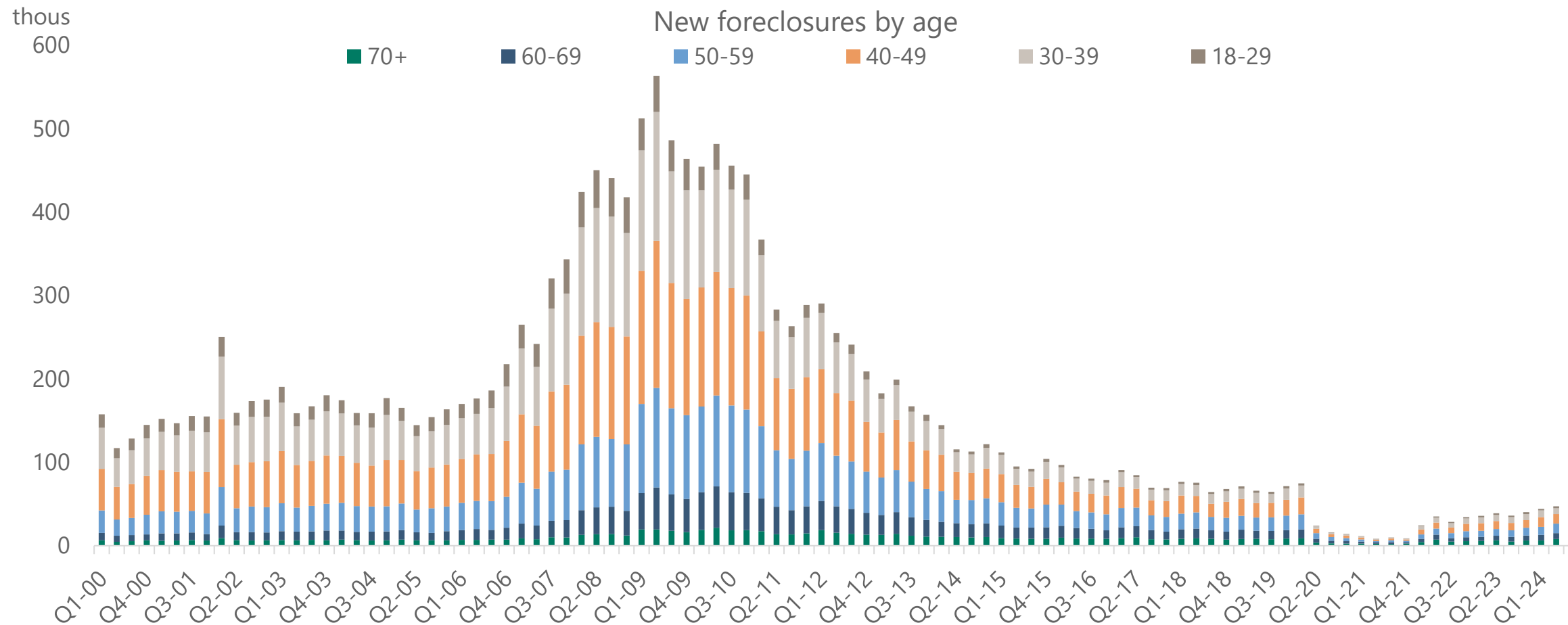
30% of homes selling above their list price



4) Housing Outlook:

Rising mortgage rates is the key risk to the housing outlook

New foreclosures, by age of homeowner



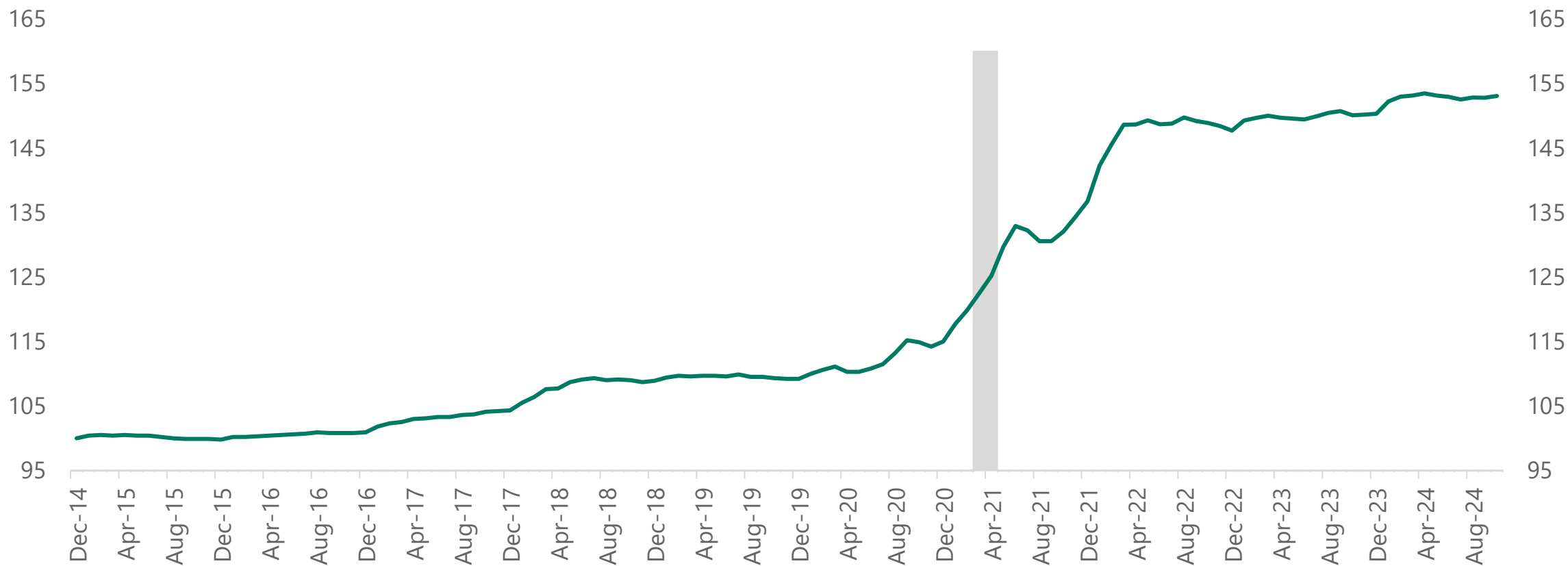
Source: FRBNY Consumer Credit Panel, Equifax, Haver Analytics, Apollo Chief Economist

Housing construction costs remain high

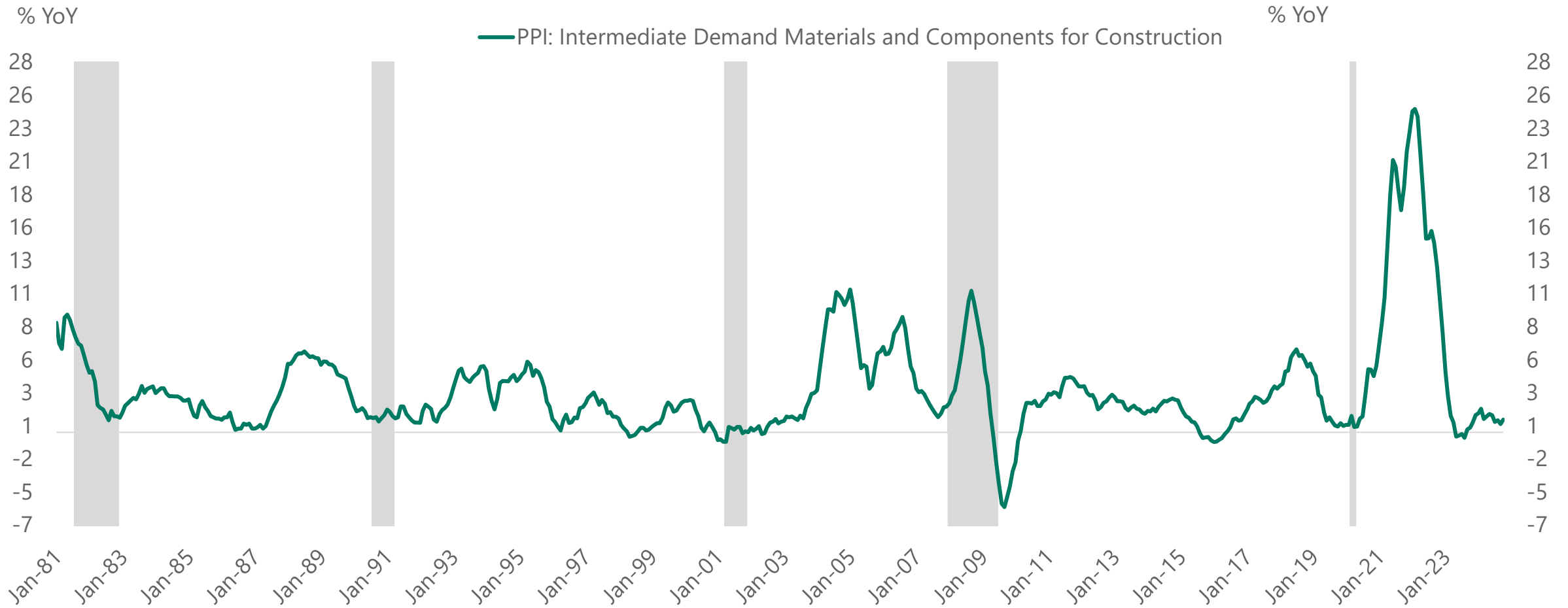
1986 = 100, NSA

PPI: inputs to residential construction, goods less foods & energy inputs

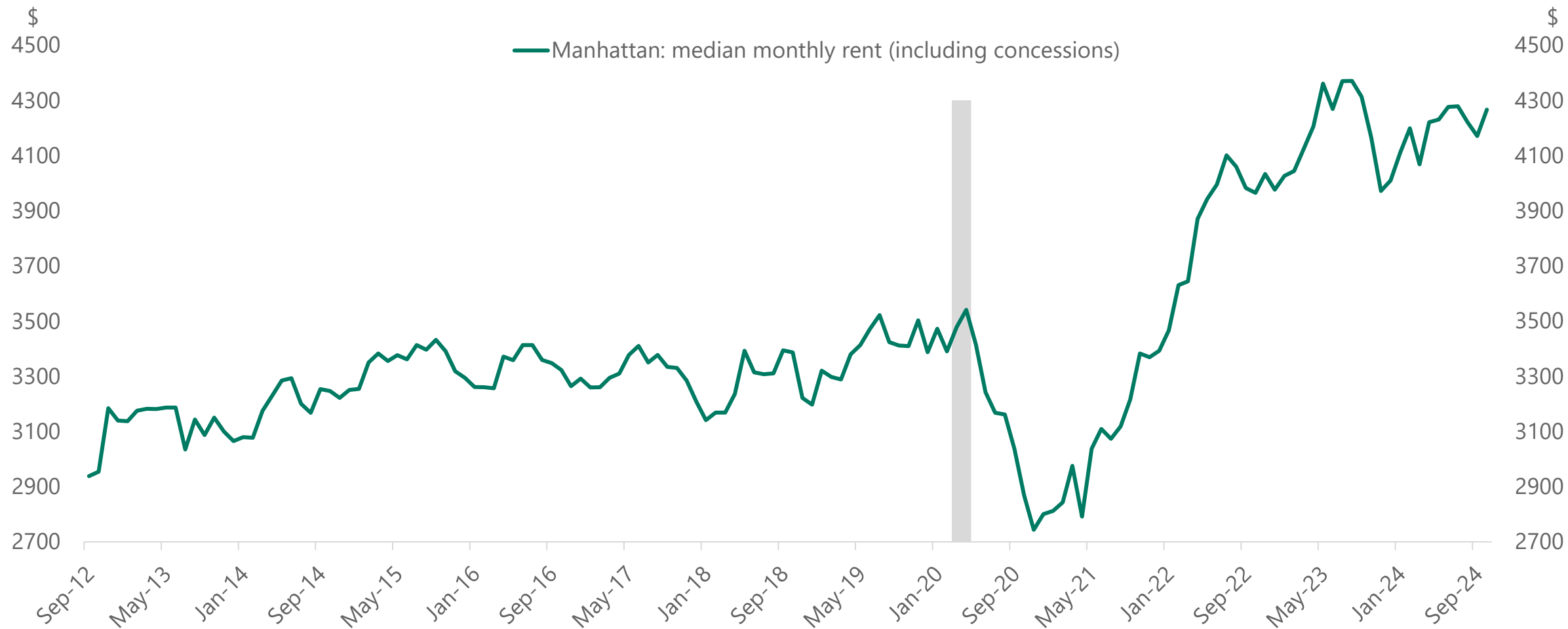
1986 = 100, NSA



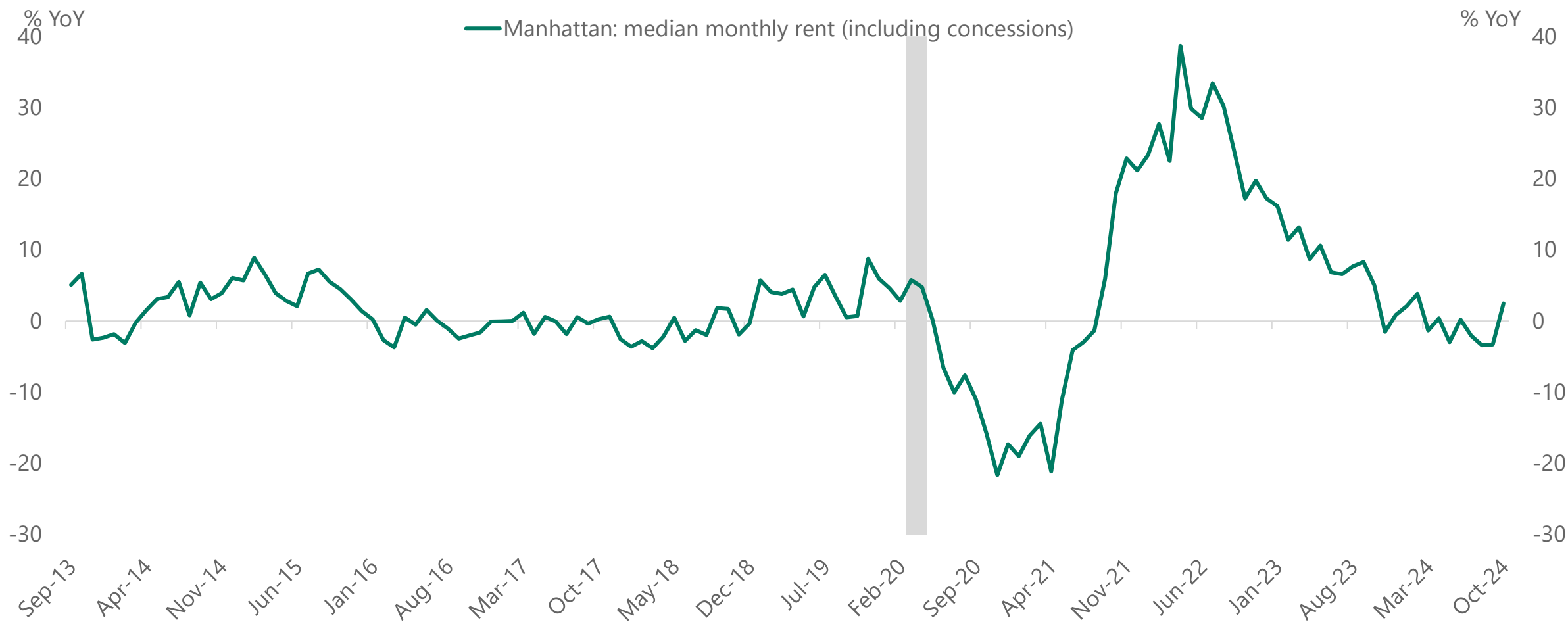
Inflation in input costs for home builders have come down



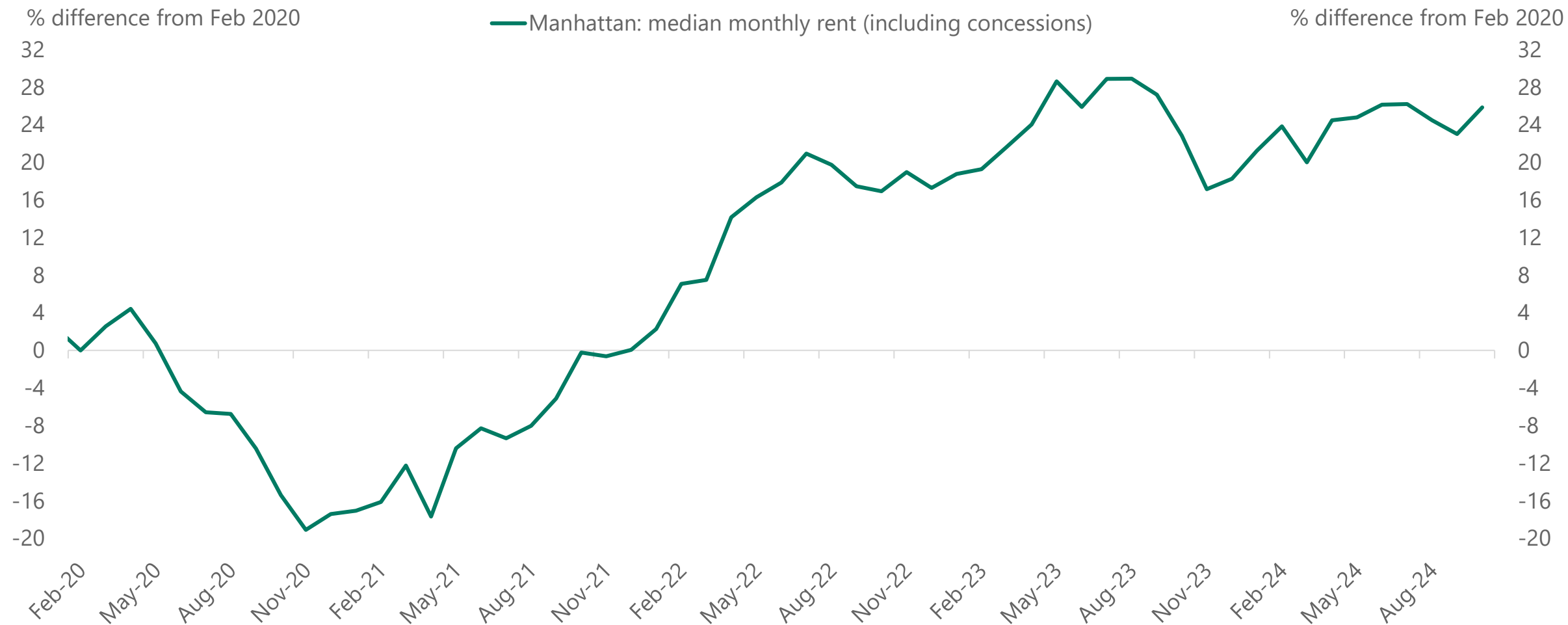
Manhattan median rent rose to \$4266 in October 2024



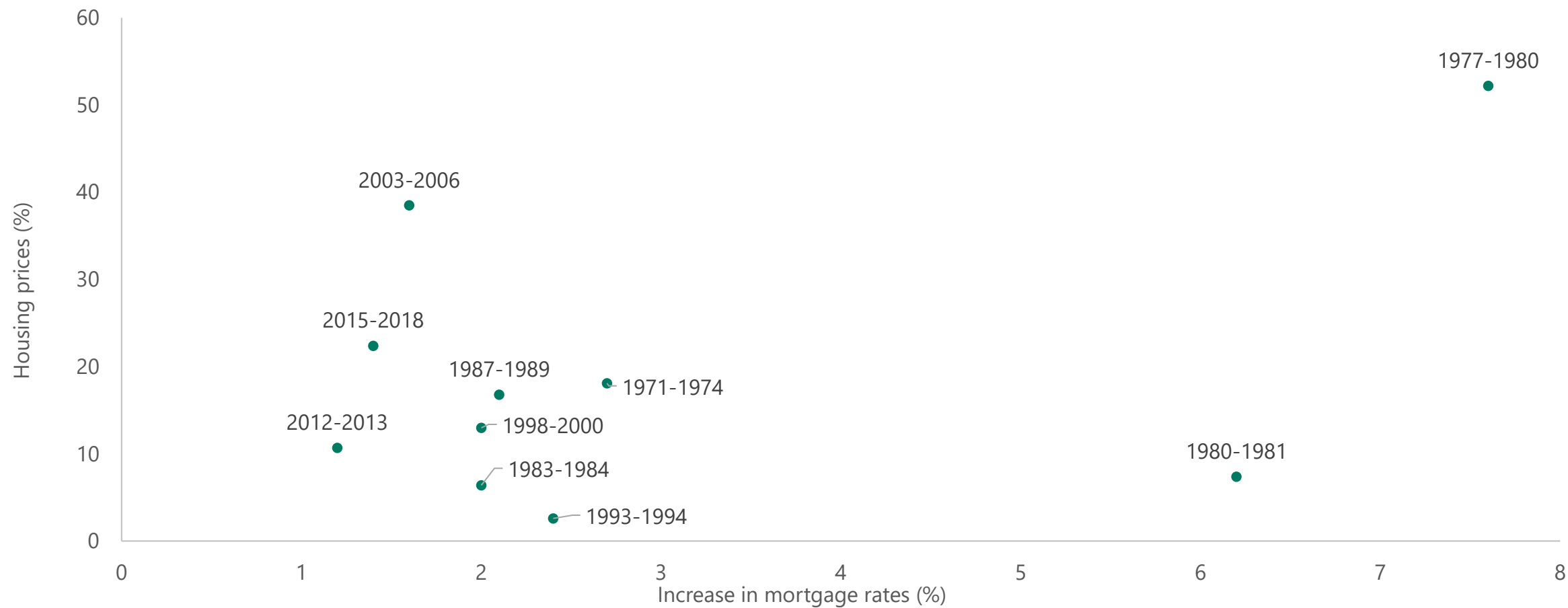
Manhattan rents starting to rise again?



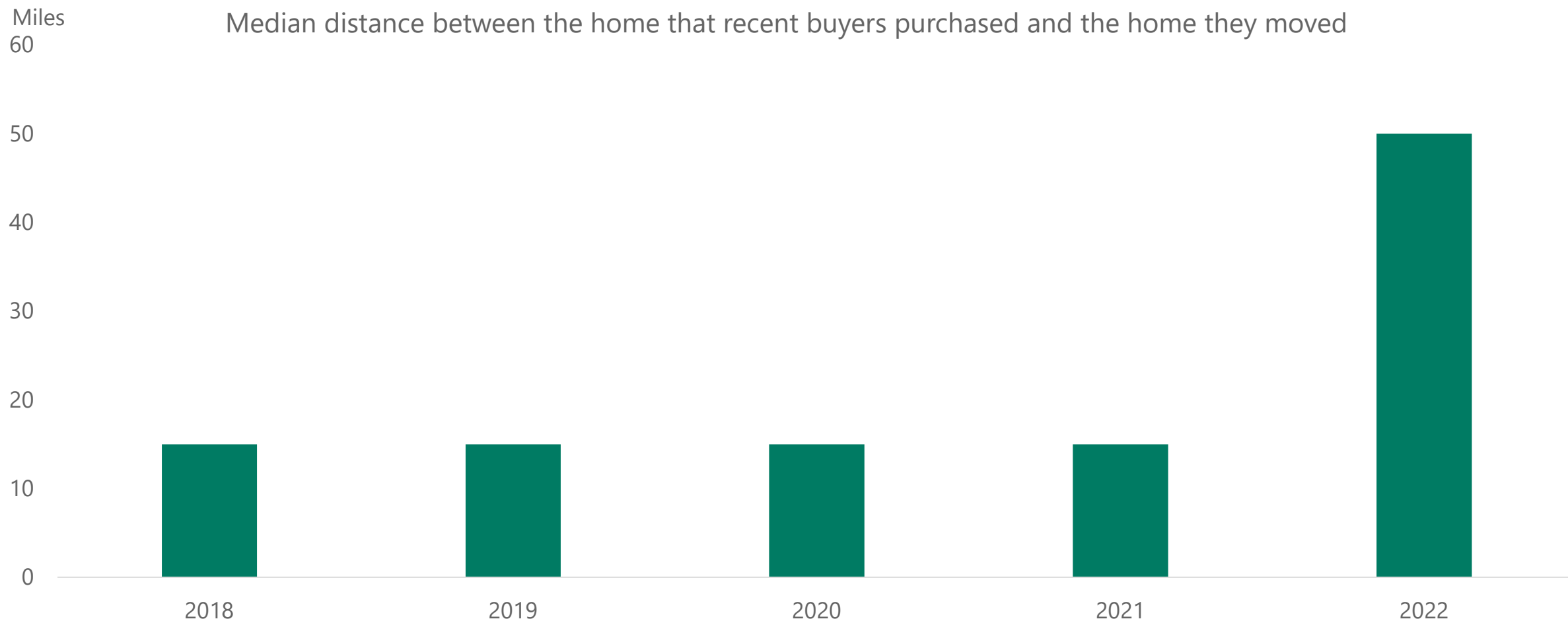
Manhattan rents well above pre-pandemic levels



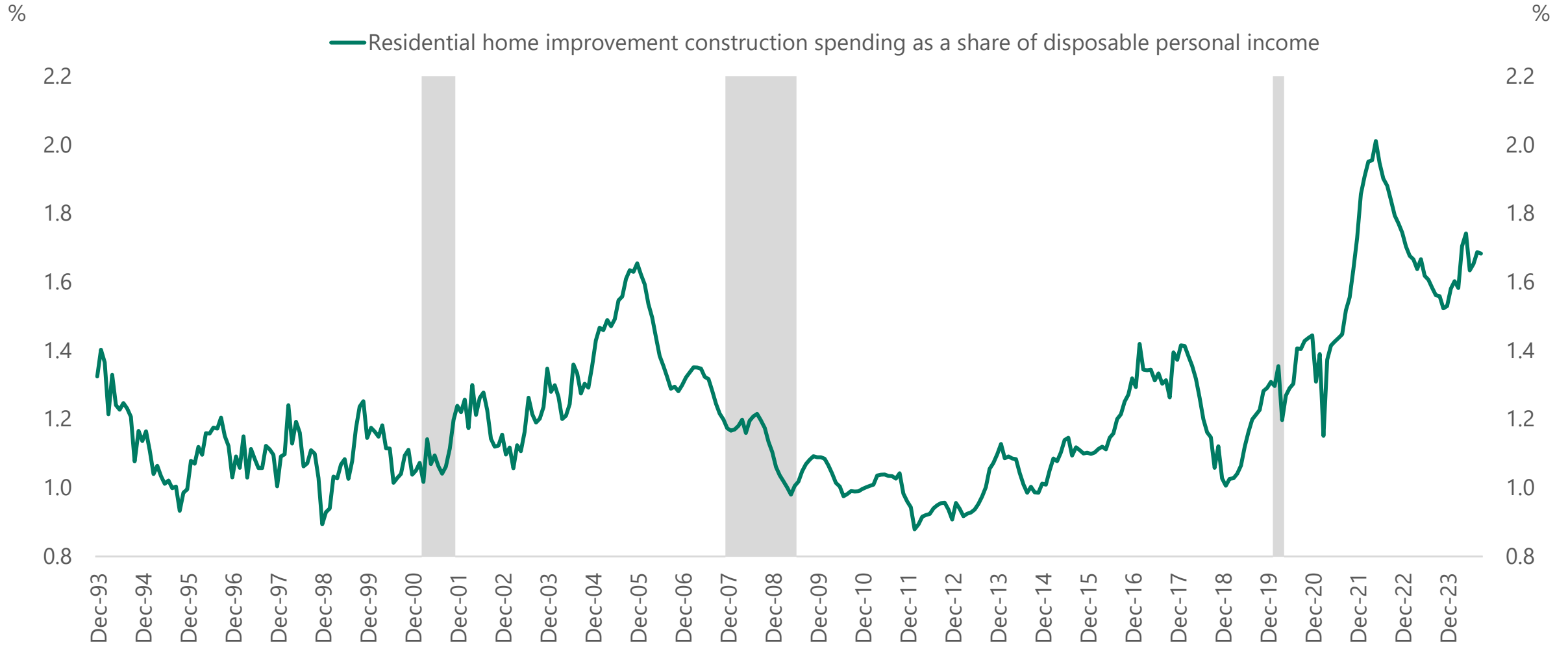
Rising mortgage rates generally associated with lower home price inflation



Median distance between the home that recent buyers purchased and the home they moved from at 50 miles in 2022

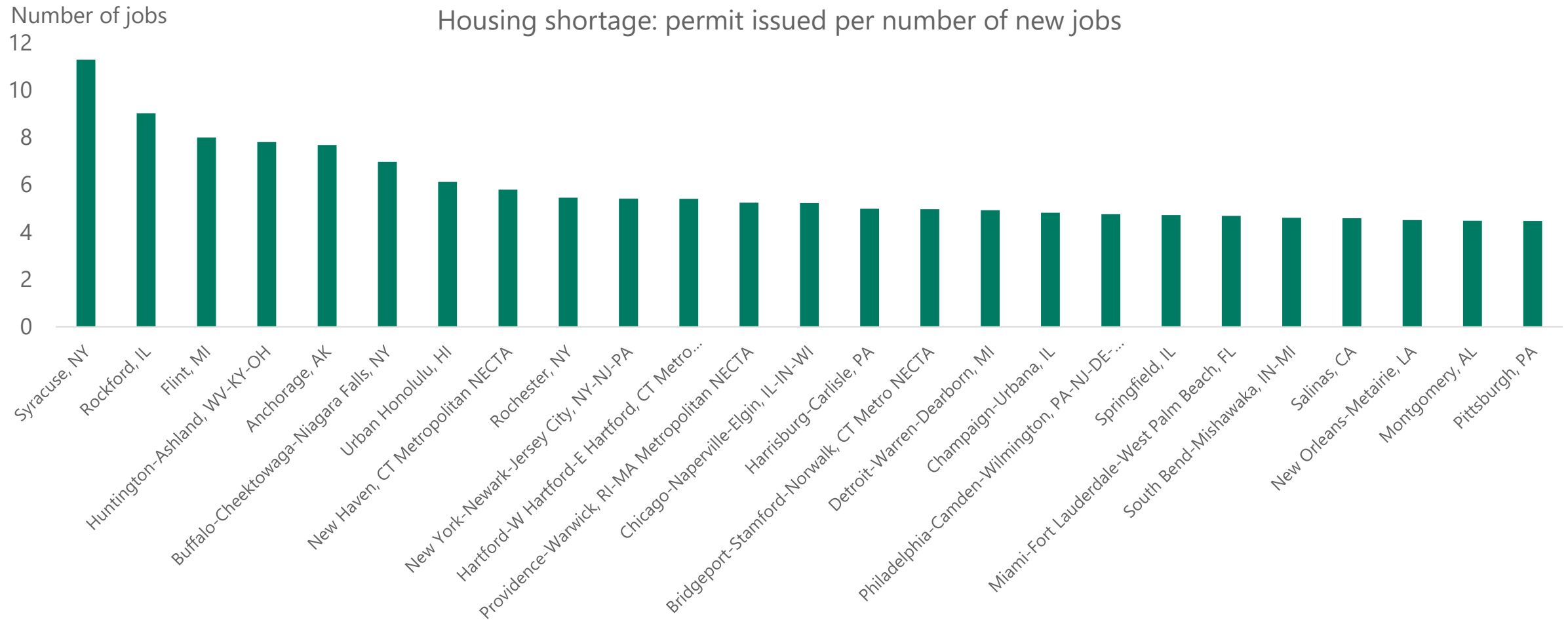


Home improvement spending as a share of disposable income rising



Source: Census Bureau, BEA, Bloomberg, Apollo Chief Economist

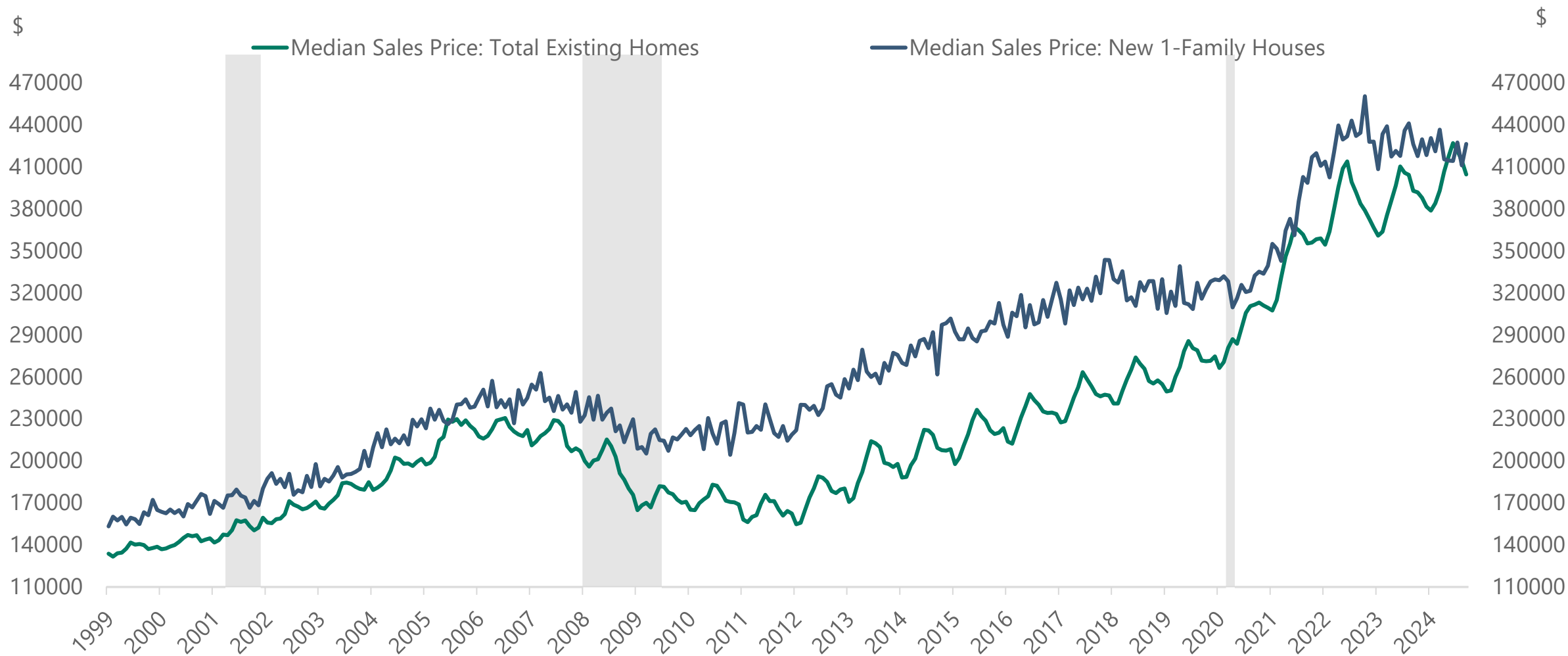
Metropolitan areas that need to build more houses to keep up with the increased demand



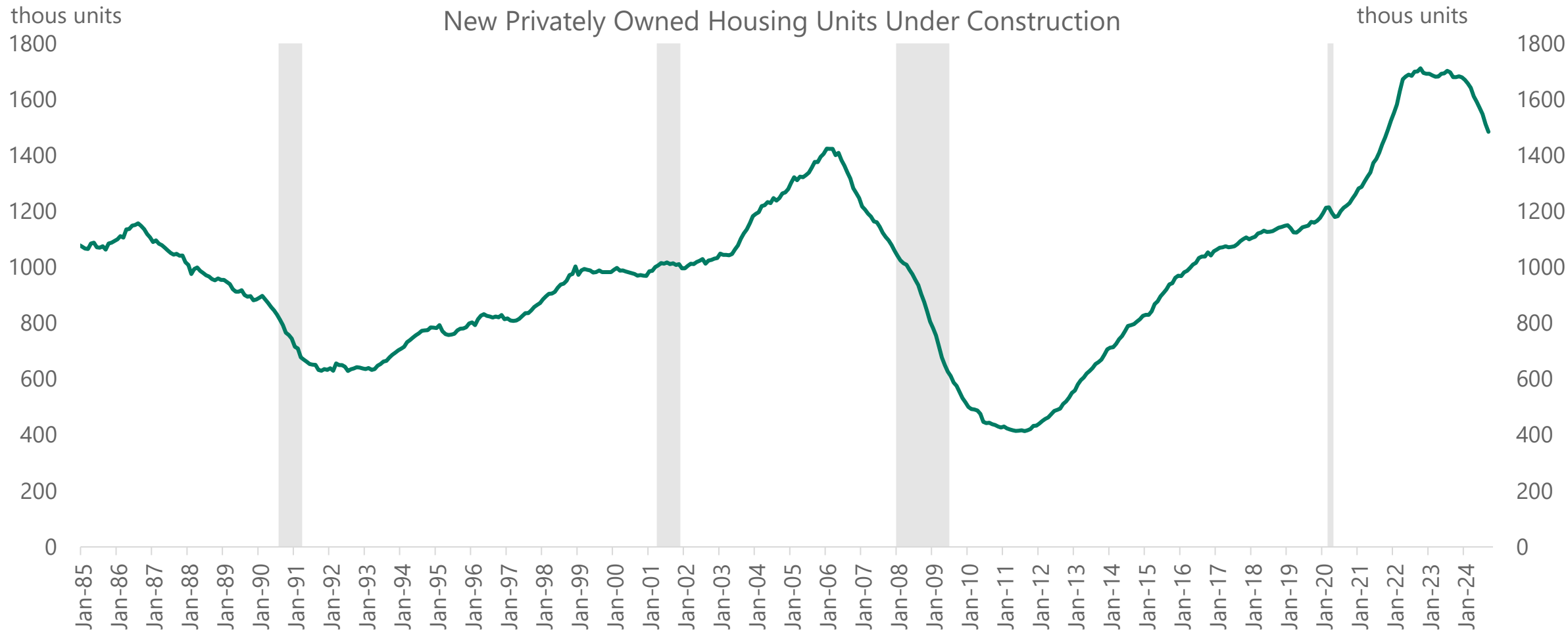
Source: NAR, Apollo Chief Economist Note: <https://www.nar.realtor/research-and-statistics/housing-statistics/housing-shortage-tracker>. It calculates how many permits are issued per every new job

New versus existing homes

House prices for new homes and existing homes

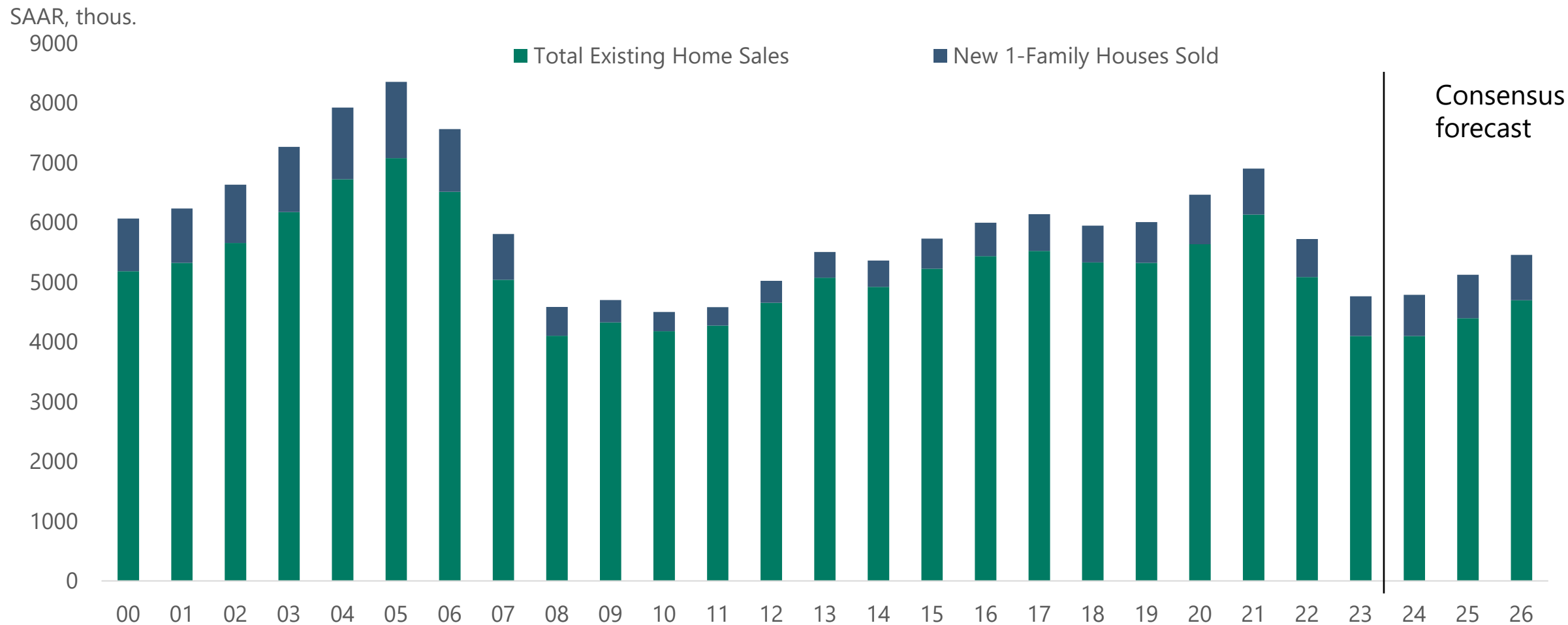


New privately owned housing units under construction coming down



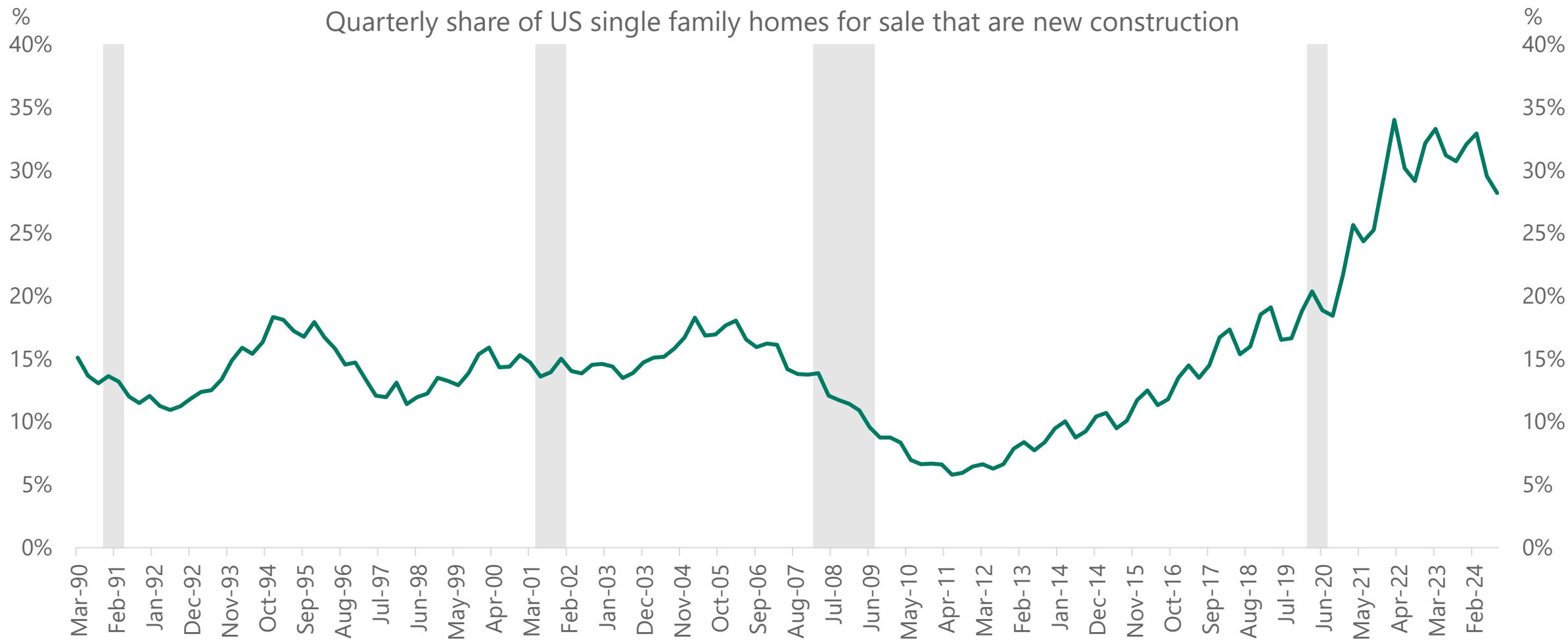
Source: Census Bureau, Haver Analytics, Apollo Chief Economist

Consensus is forecasting a modest rebound in home sales

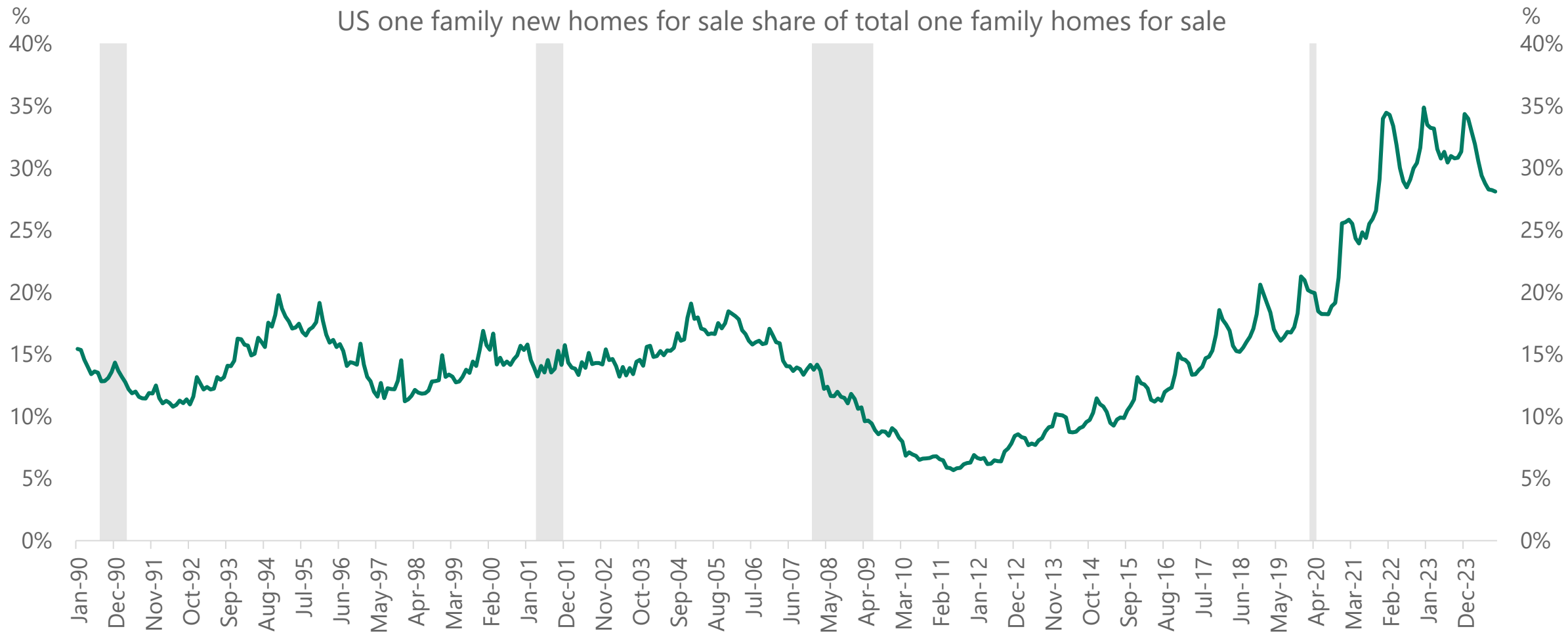


Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus

Share of newly built homes for sale

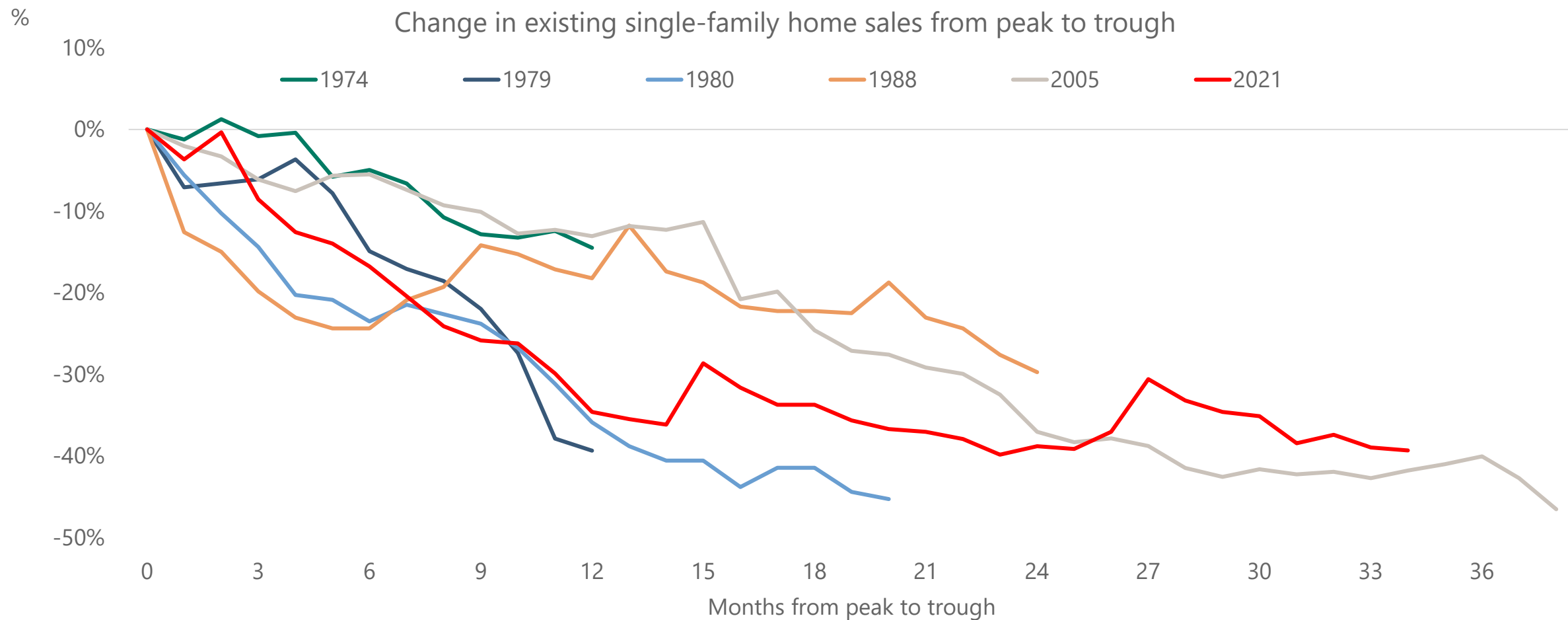


Share of new homes for sale

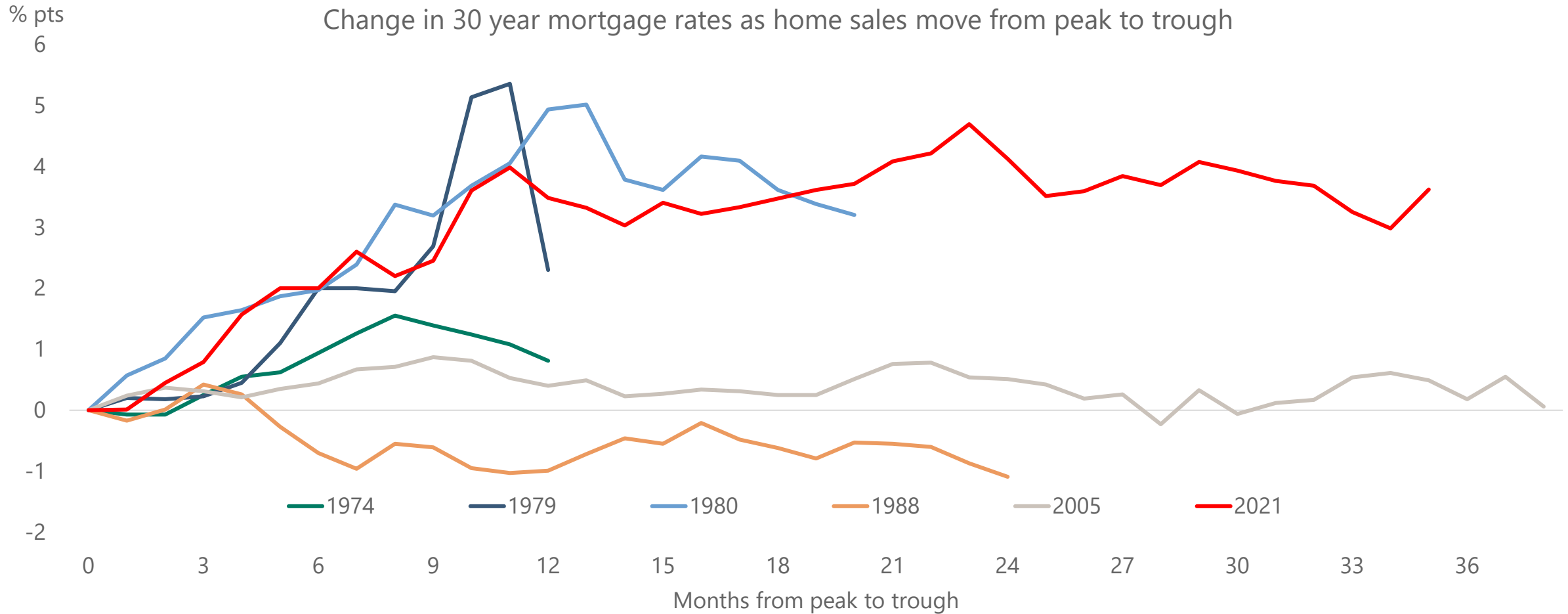


Comparing the current housing slowdown to previous housing slowdowns

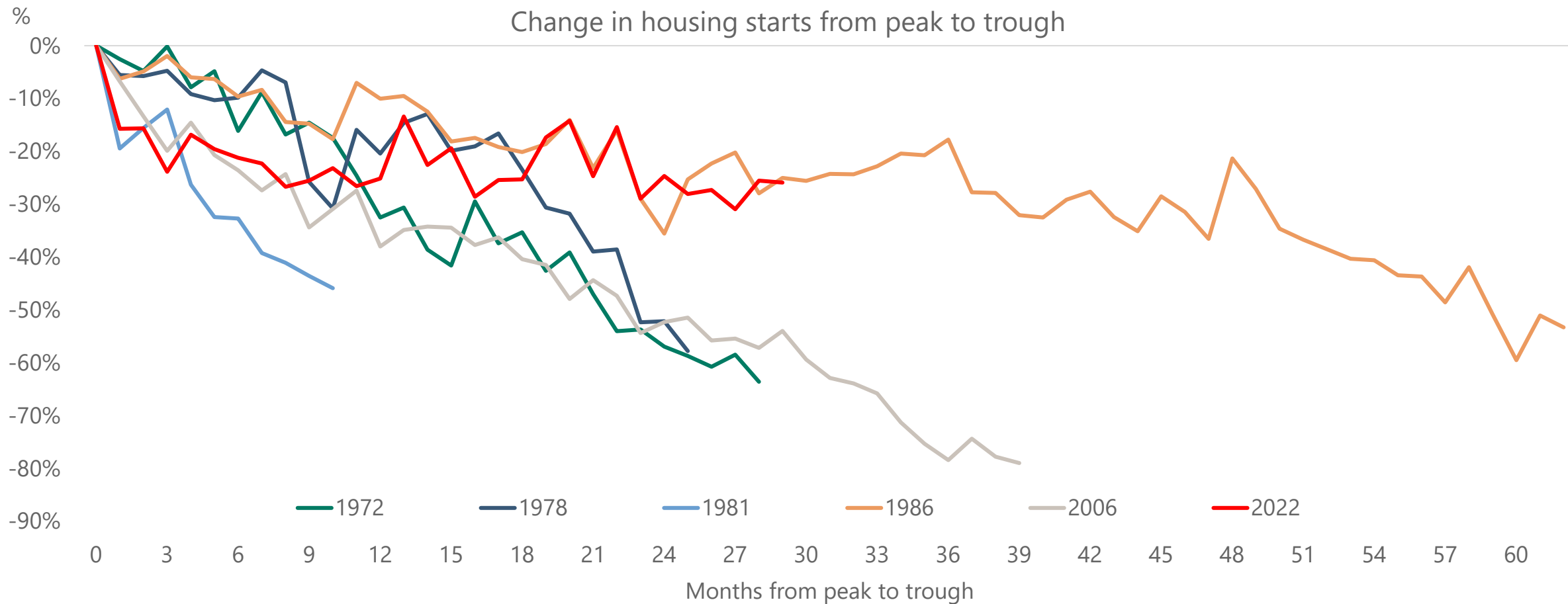
The current decline in existing home sales is in line with previous housing slowdowns



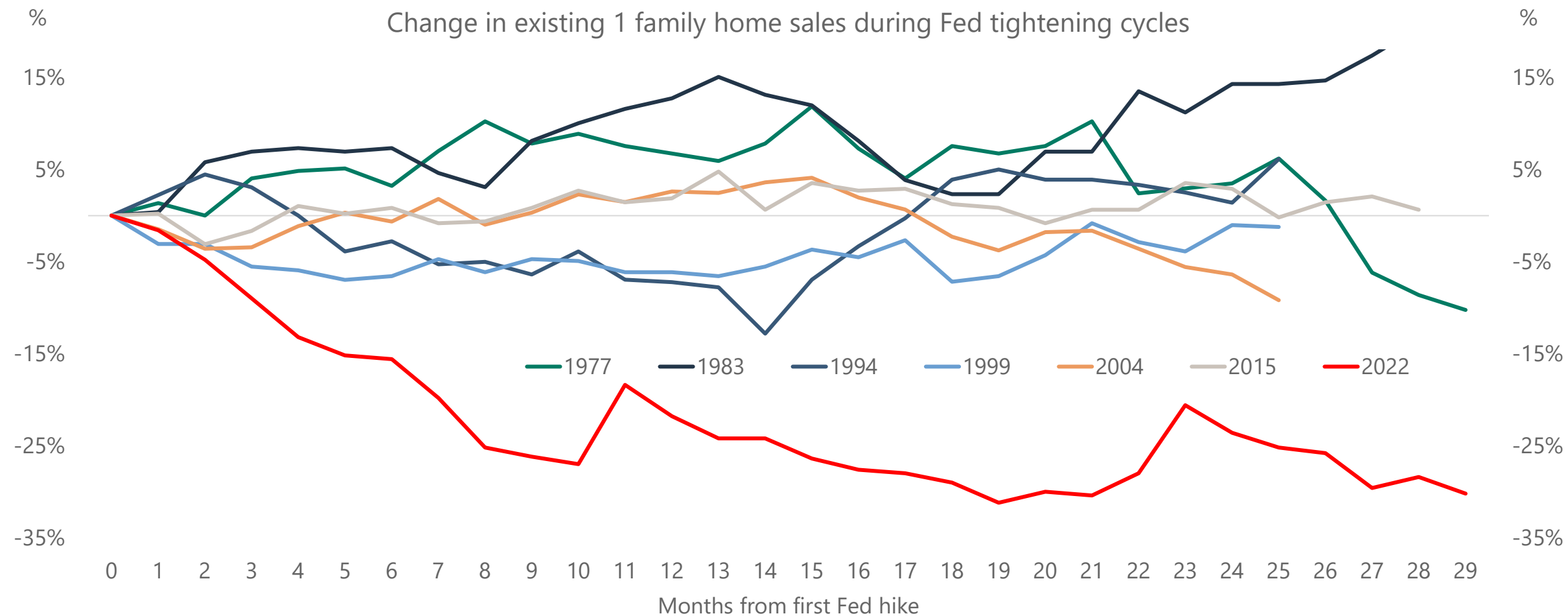
The current rise in mortgage rates is similar to what we saw during the Volcker disinflation



The current decline in housing starts is a bit milder than previous slowdowns



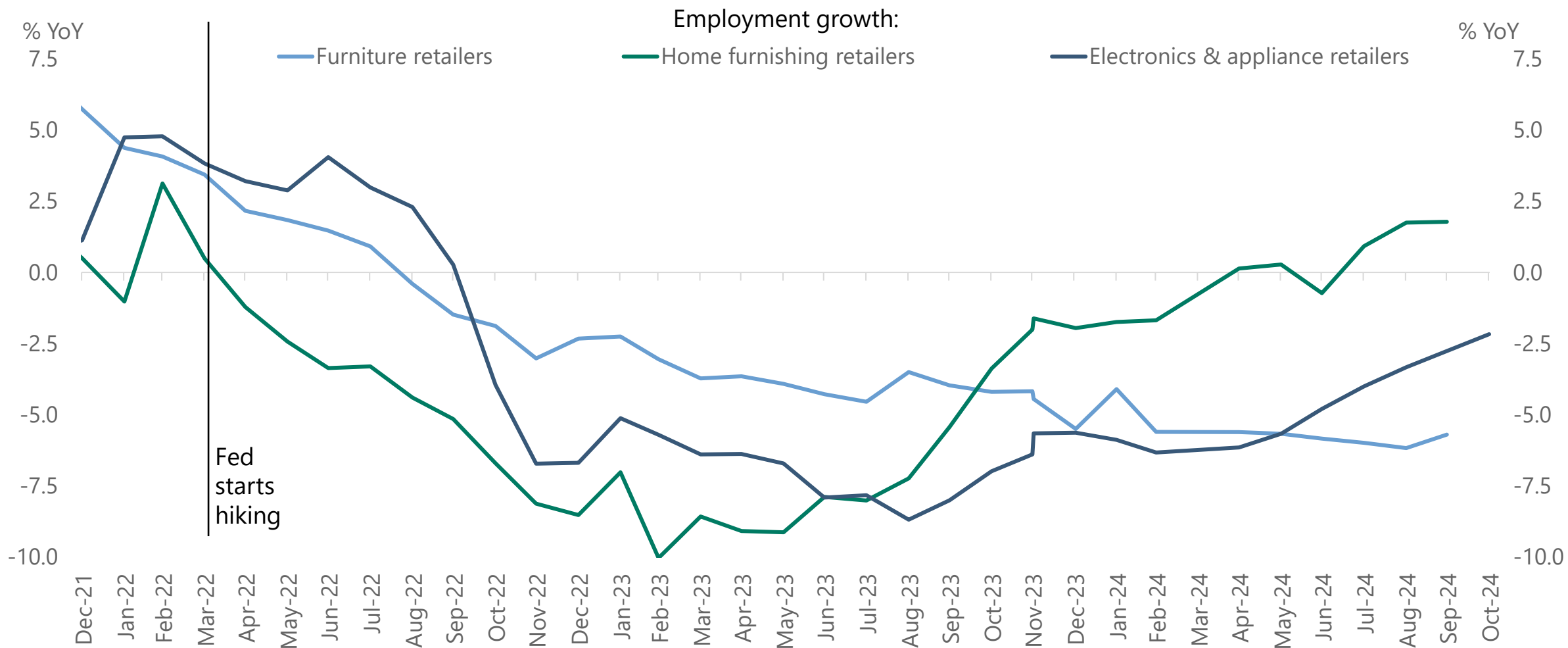
This is the fastest Fed-driven housing slowdown on record



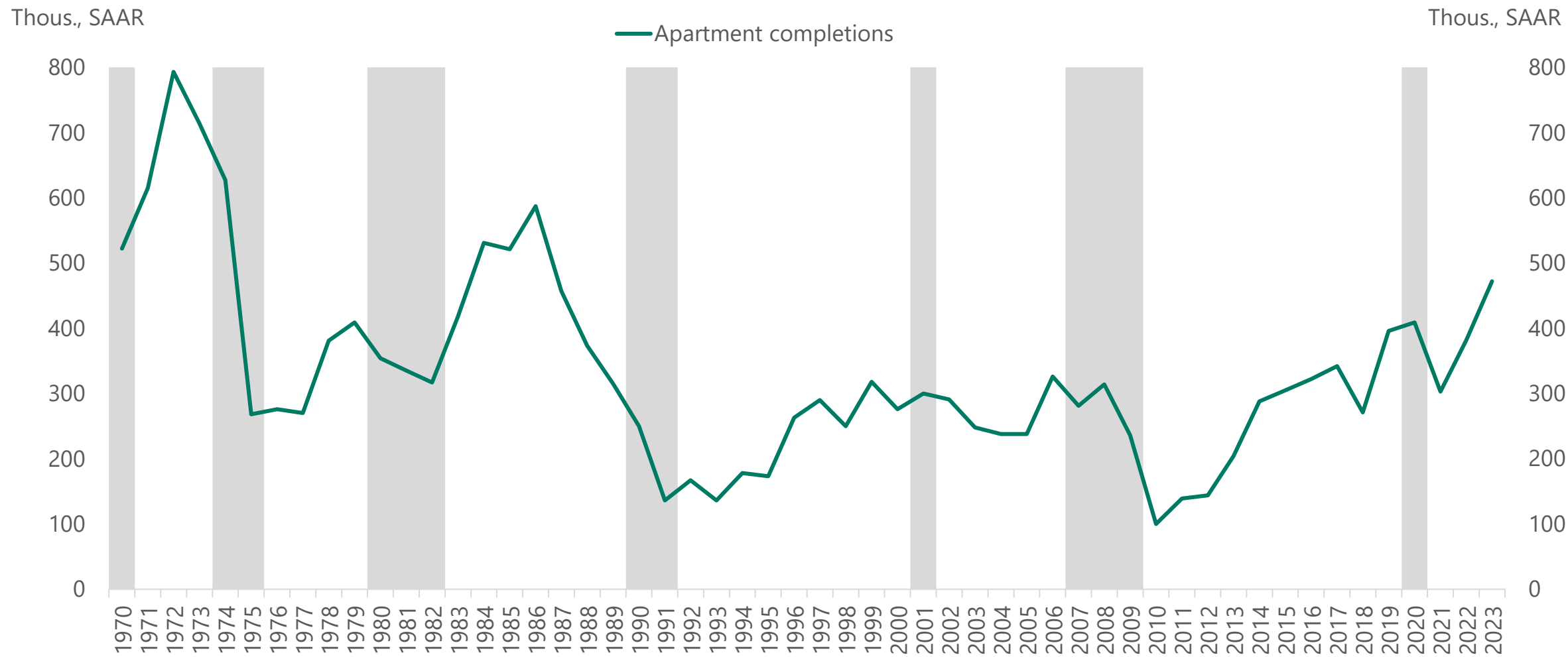
Apartment vacancies above pre-pandemic levels



When the Fed raised interest rates, employment in retail trade declined

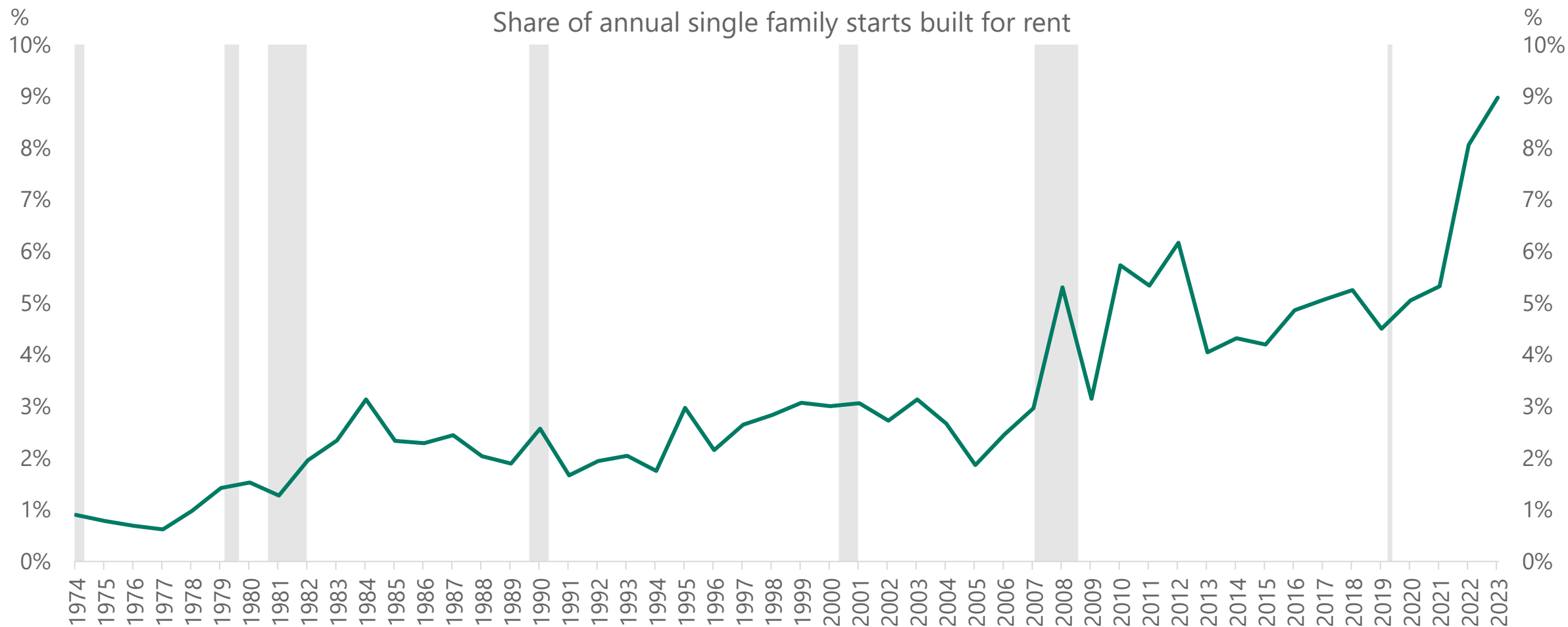


US apartment supply gradually increasing

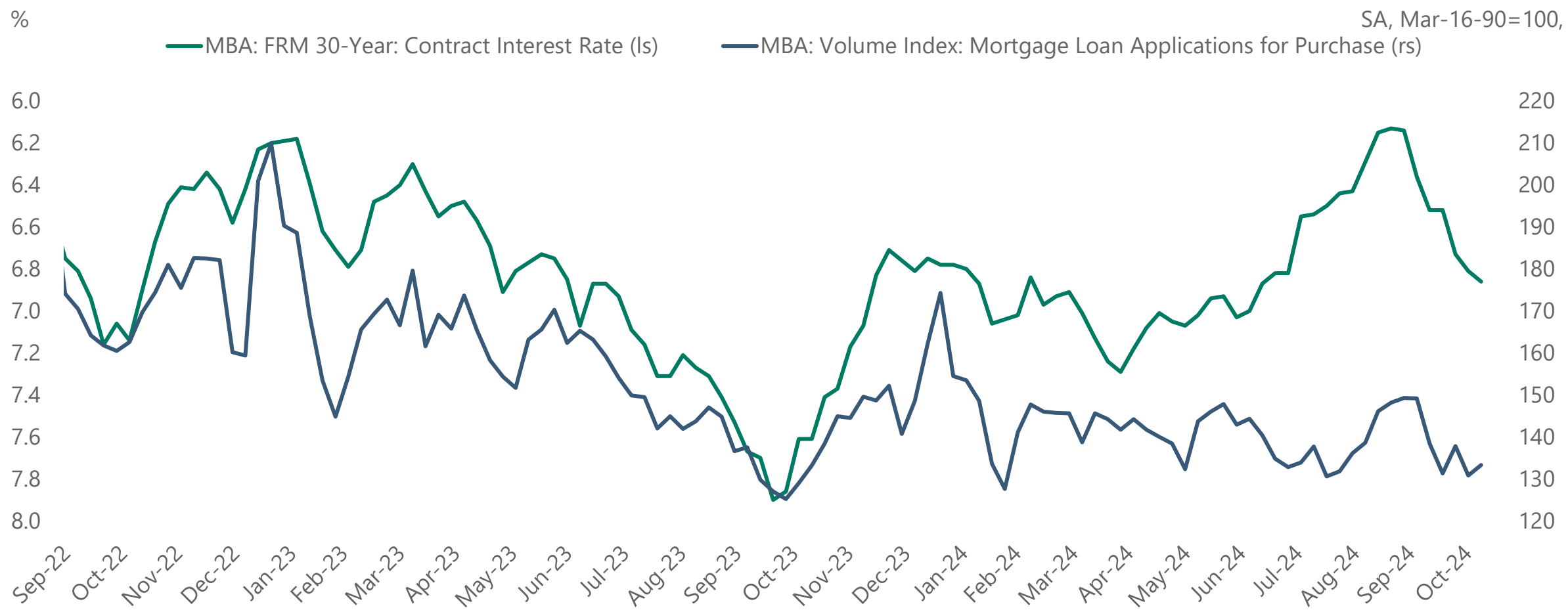


Source: US Census Bureau, Haver Analytics, Apollo Chief Economist

Share of homes built for rent going up



Purchase loan applications remain low



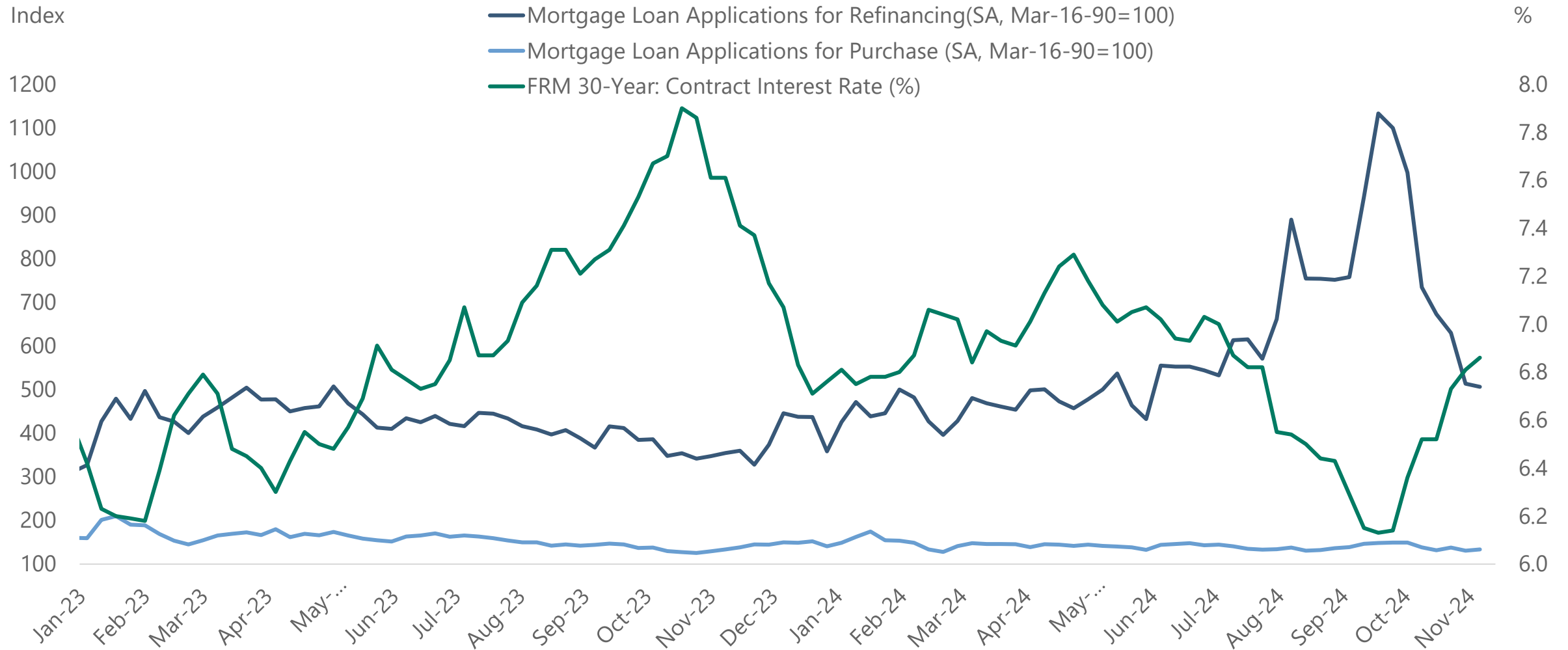
Source: Mortgage Bankers Association, Haver Analytics, Apollo Chief Economist. Note: The left scale (ls) is inverted.

Purchase loan applications remain low



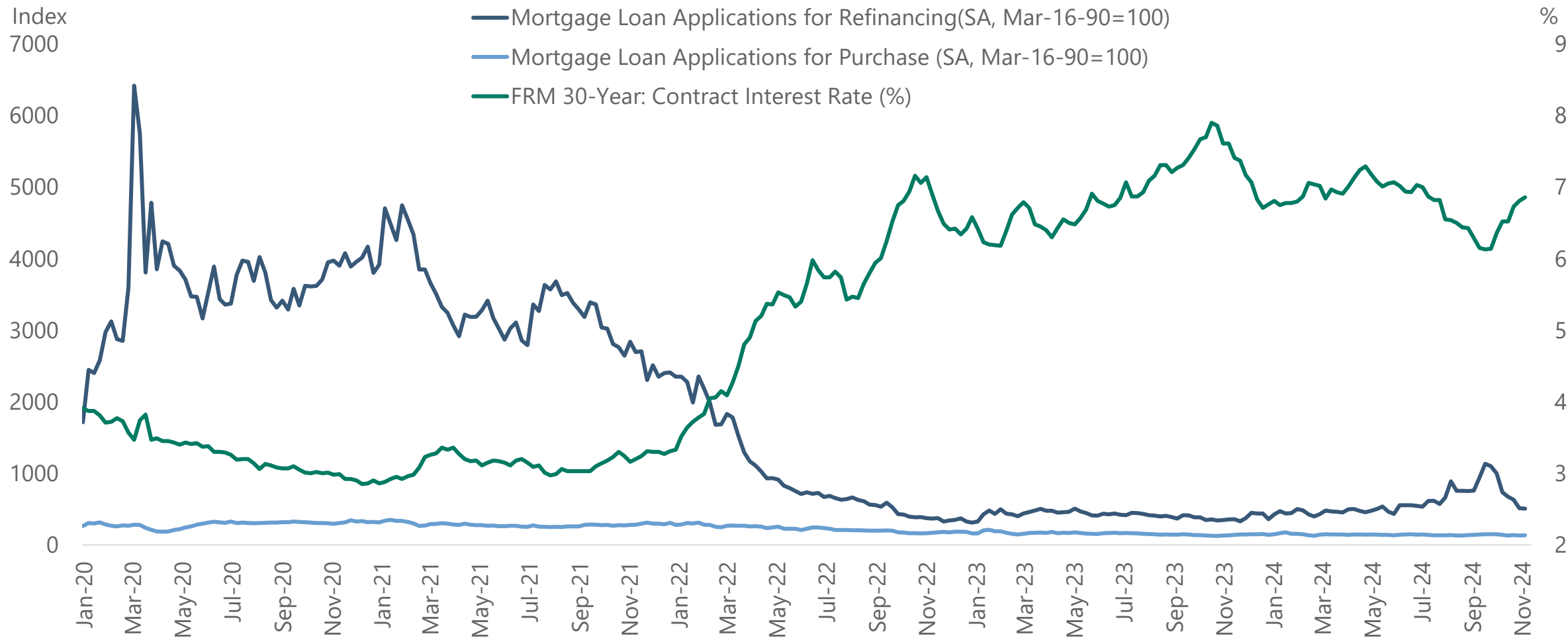
Source: Mortgage Bankers Association, Haver Analytics, Apollo Chief Economist. Note: The left scale (1s) is inverted.

Rising interest rates putting downward pressure on mortgage purchase applications



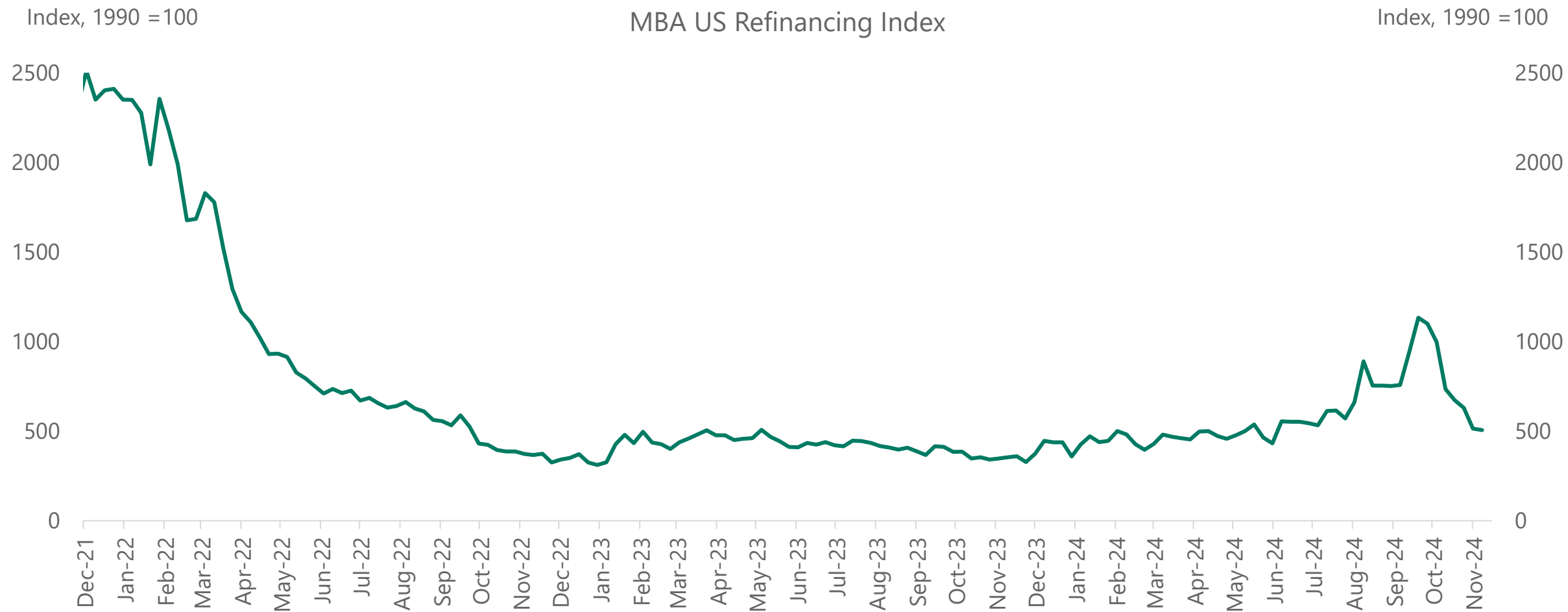
Source: Mortgage Bankers Association, Haver Analytics, Apollo Chief Economist.

Mortgage applications fall as interest rates rise



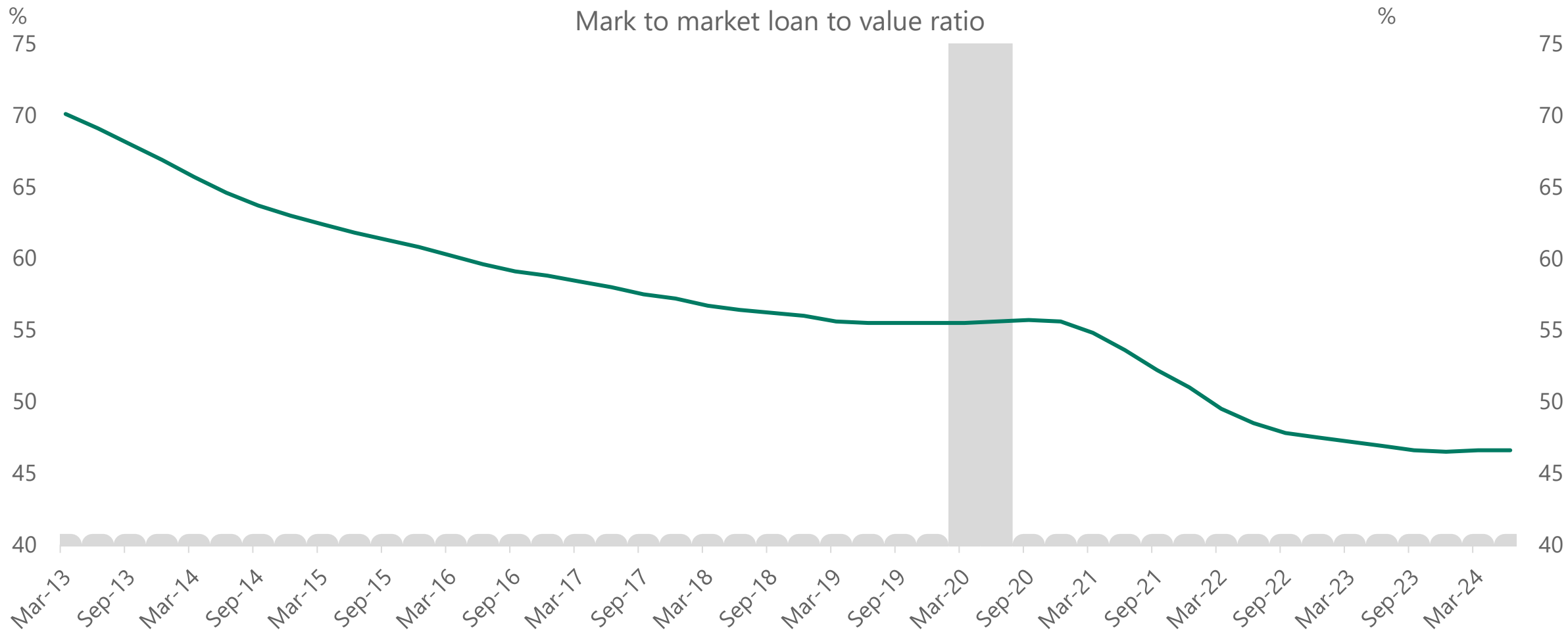
Source: Mortgage Bankers Association, Haver Analytics, Apollo Chief Economist.

Higher mortgage rates has pushed refinancing activity down



Source: Mortgage Bankers Association, Haver Analytics, Apollo Chief Economist.

Loan-to-value ratio for US mortgages





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Torsten Slok joined Apollo in August 2020 as Chief Economist and he leads Apollo's macroeconomic and market analysis across the platform.

Prior to joining, Mr. Slok worked for 15 years as Chief Economist at Deutsche Bank where his team was top ranked in the annual Institutional Investor survey for a decade. Prior to joining Deutsche Bank Mr. Slok worked at the IMF in Washington, DC and at the OECD in Paris.

Mr. Slok has a Ph.D in Economics and has studied at the University of Copenhagen and Princeton University.