

APOLLO

## US Housing Outlook:

Housing recovery continues driven by low supply. But housing demand is gradually softening because of high mortgage rates, high home prices, and rising unemployment

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**Apollo Global Management**

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Unless otherwise noted, information as of September 2024

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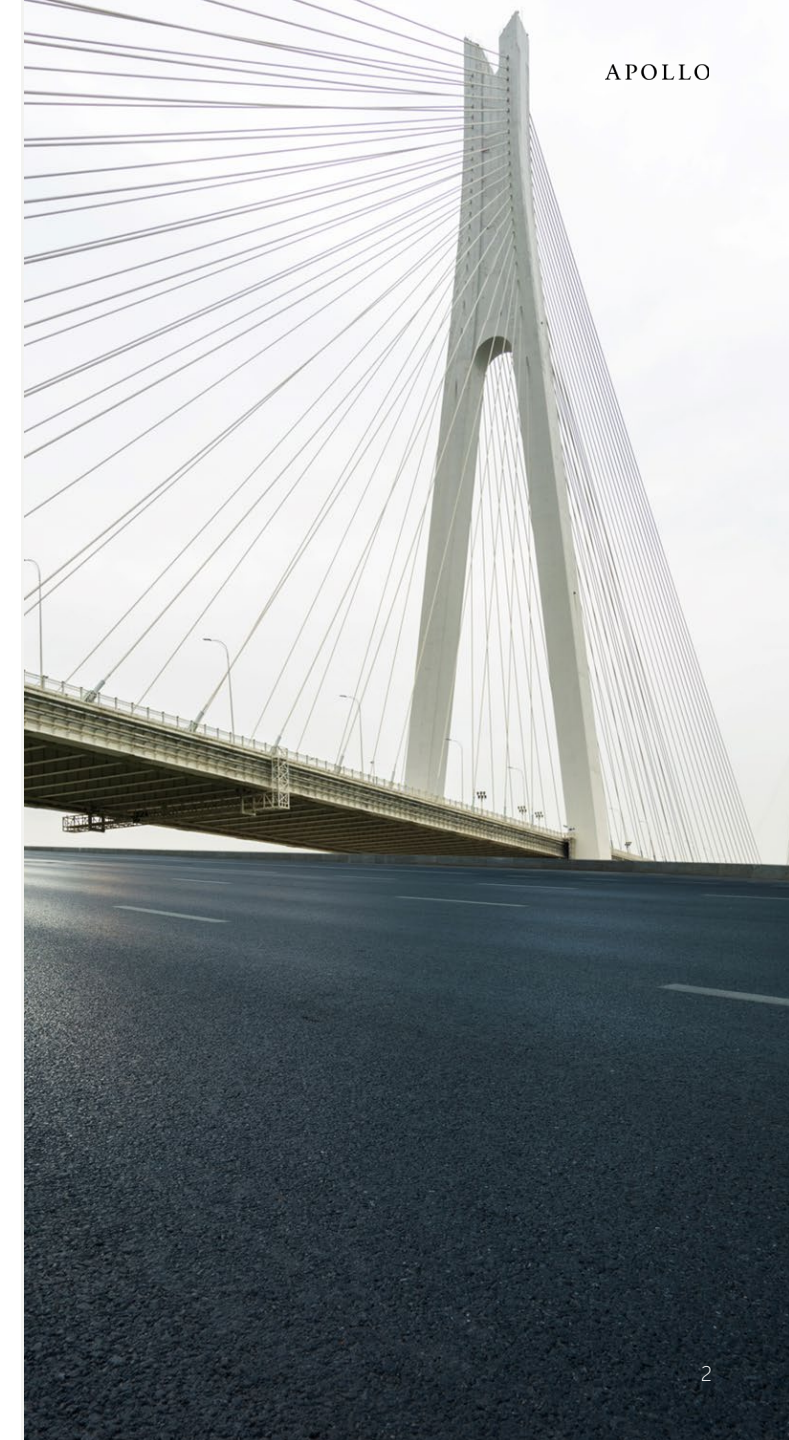
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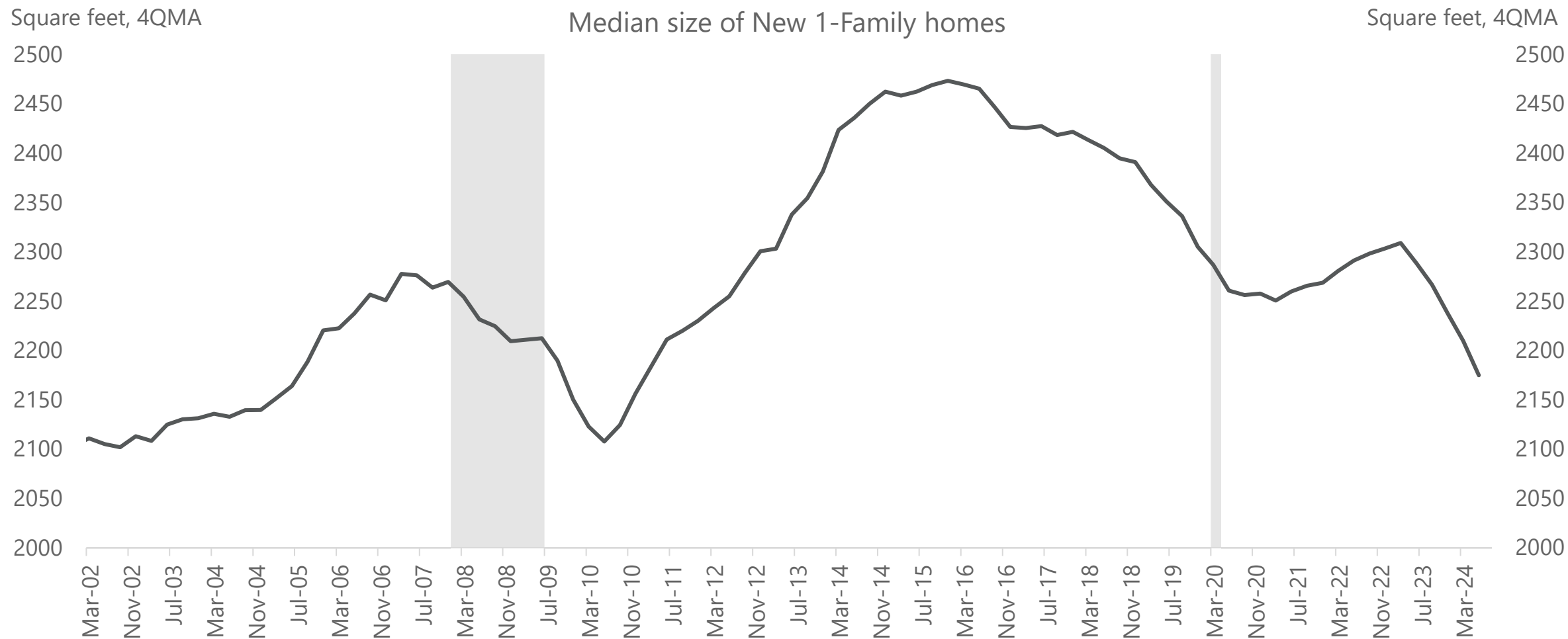
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## **Housing recovery continues, driven by:**

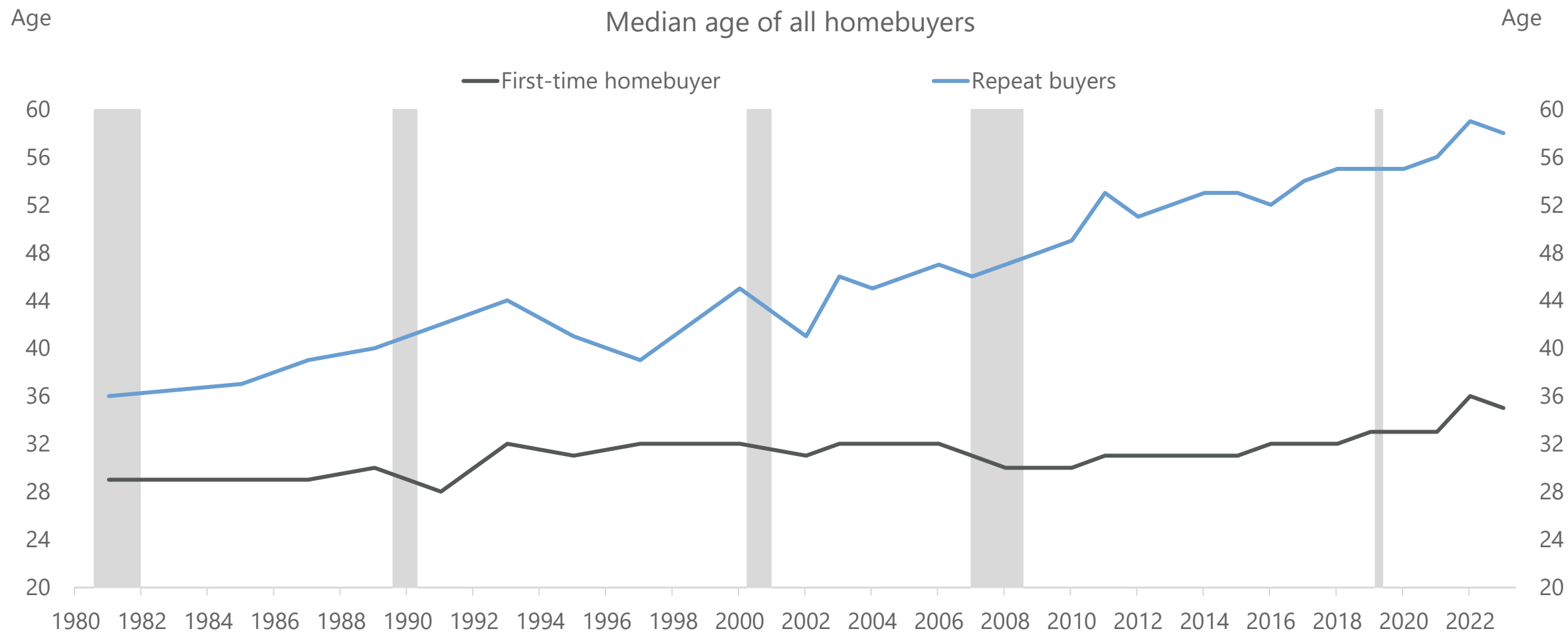
1. Low housing supply
2. Housing demand dampened by high home prices and high mortgage rates
3. Robust job growth but rising unemployment rate
4. Robust wage growth
5. Household wealth levels and fixed income cash flows high, supporting housing demand

# US homes are getting smaller

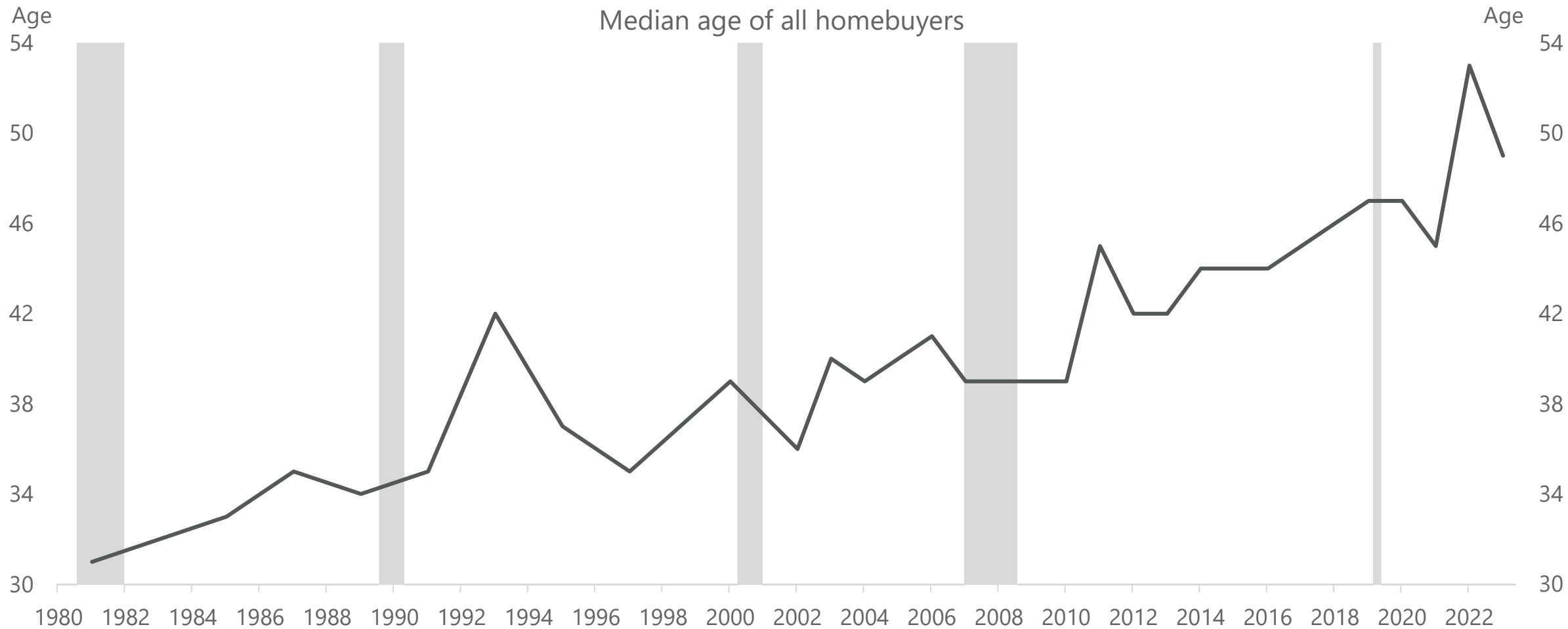


Source: Census Bureau, Haver Analytics, Apollo Chief Economist

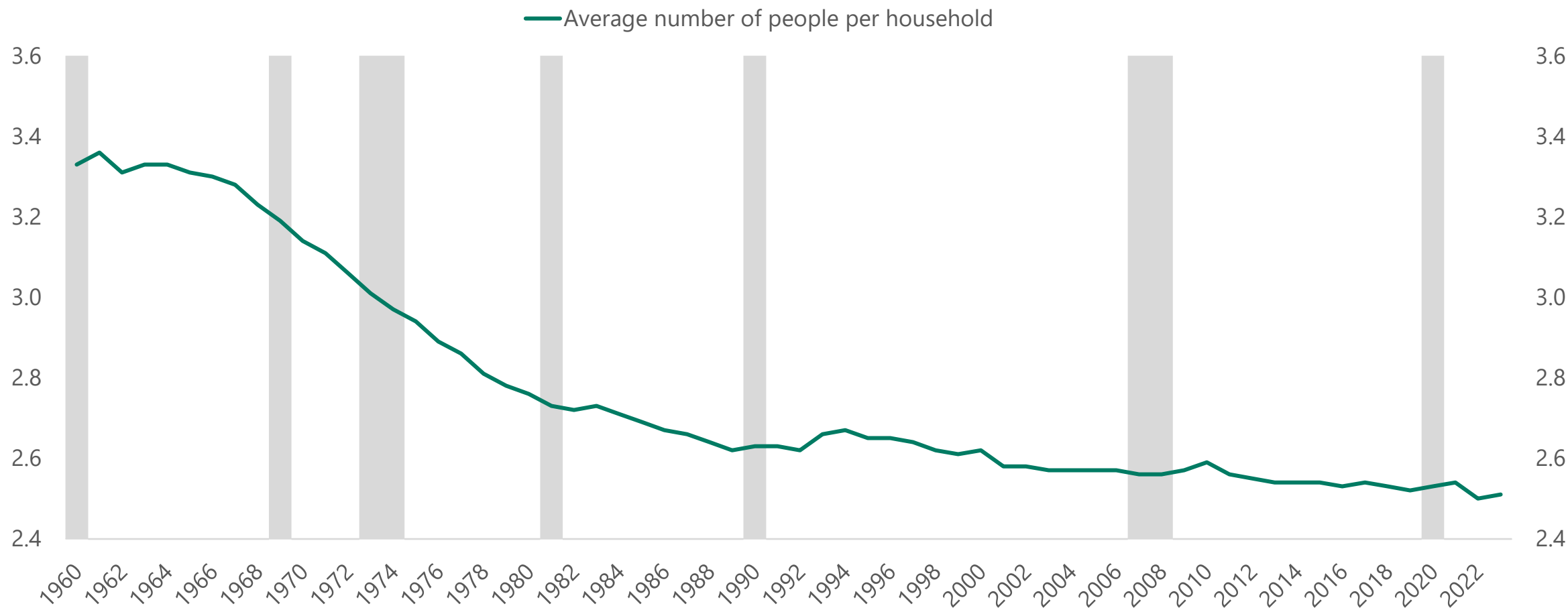
# Homebuyers are getting older



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



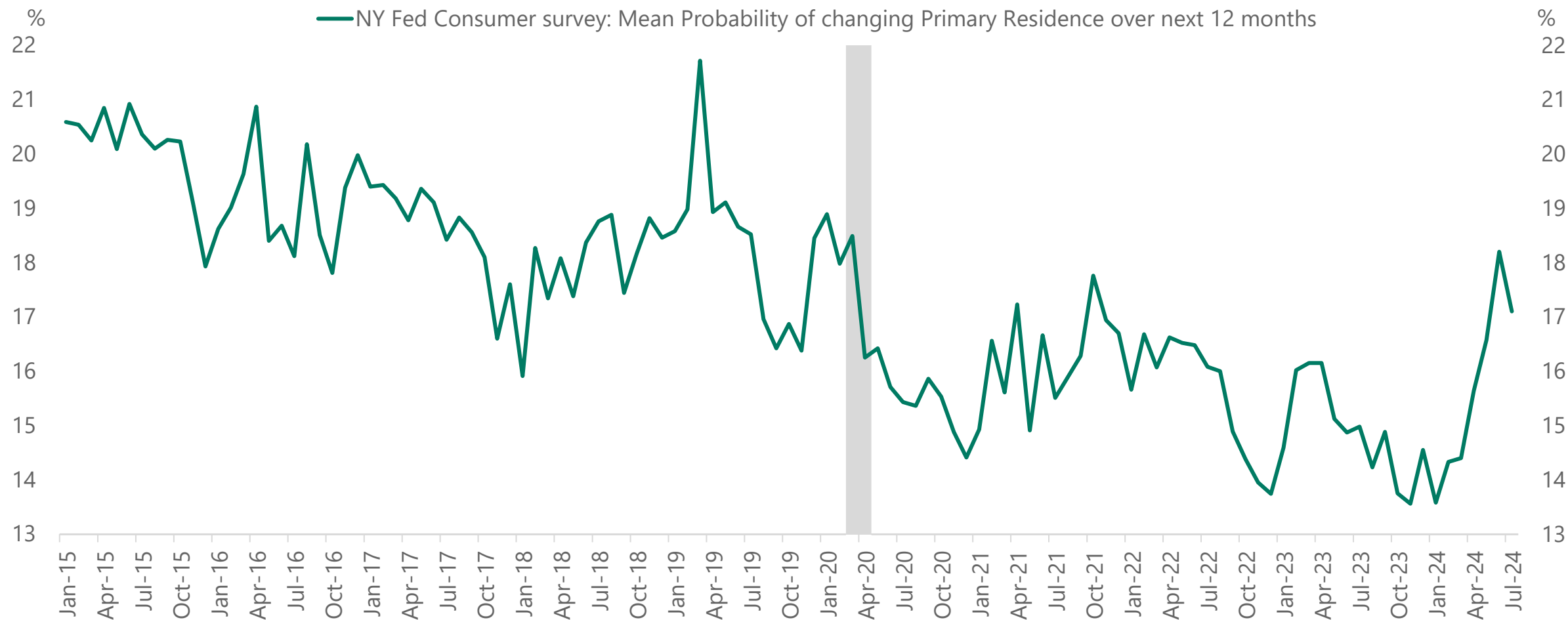
The average family size in the US has declined from 3.3 in 1960 to 2.5 by 2023.



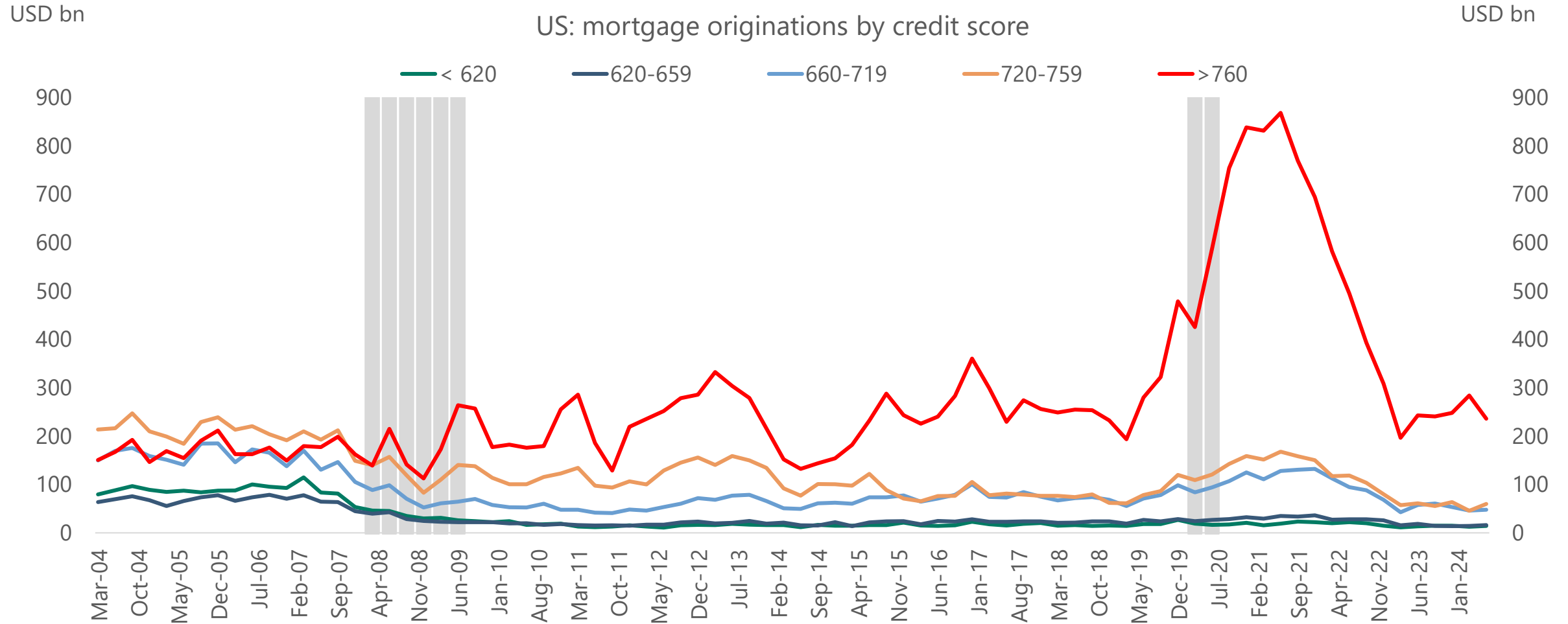
# Leading indicators for the housing market



# Share of households planning to move over the next 12 months moved up recently

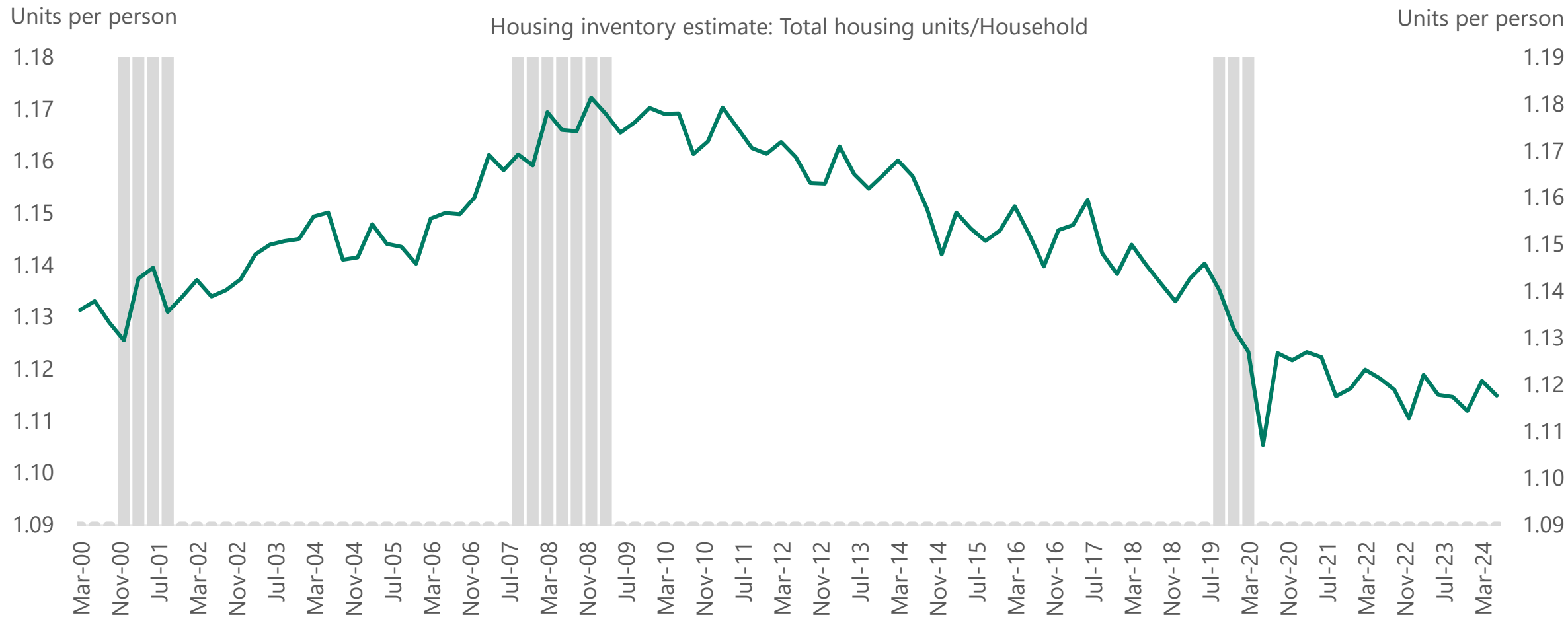


# Mortgage originations have normalized for households with high credit scores

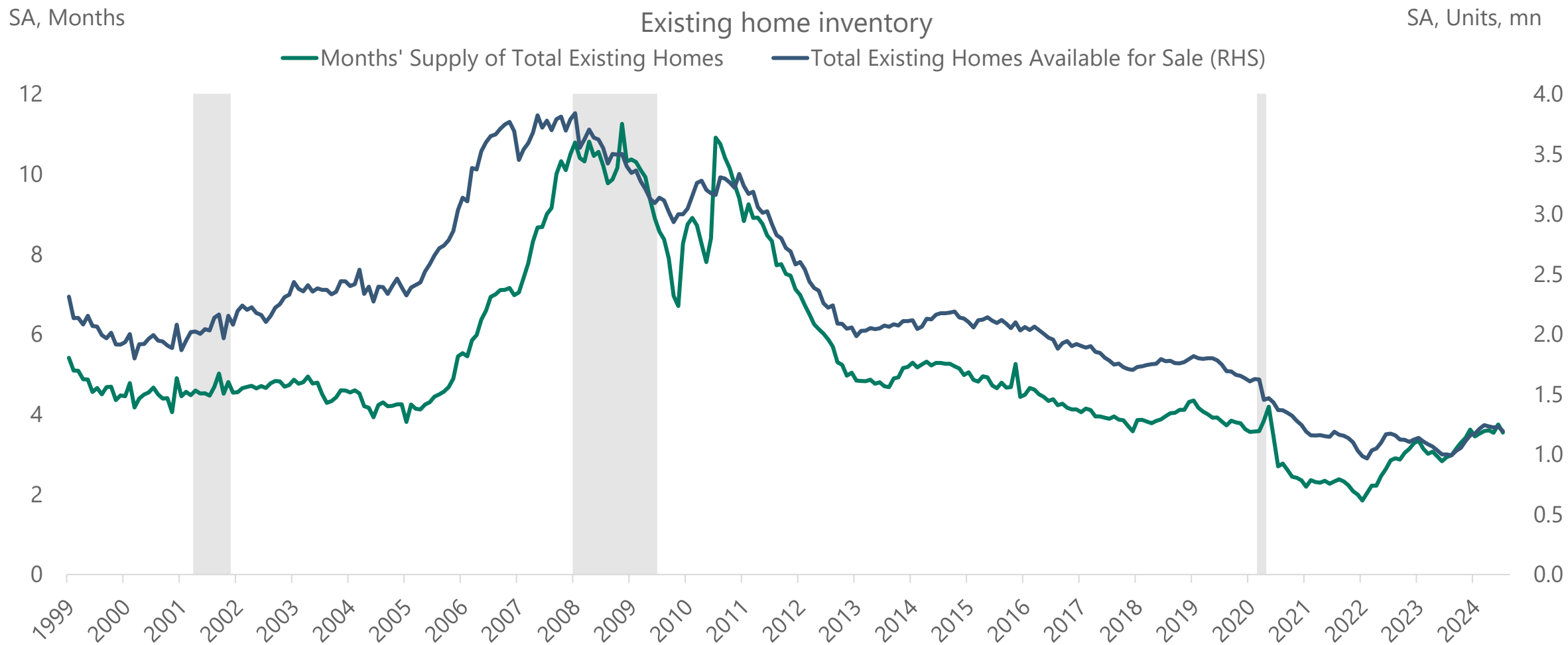


Source: NY Fed, Bloomberg, Apollo Chief Economist

# Total housing inventory per person very low

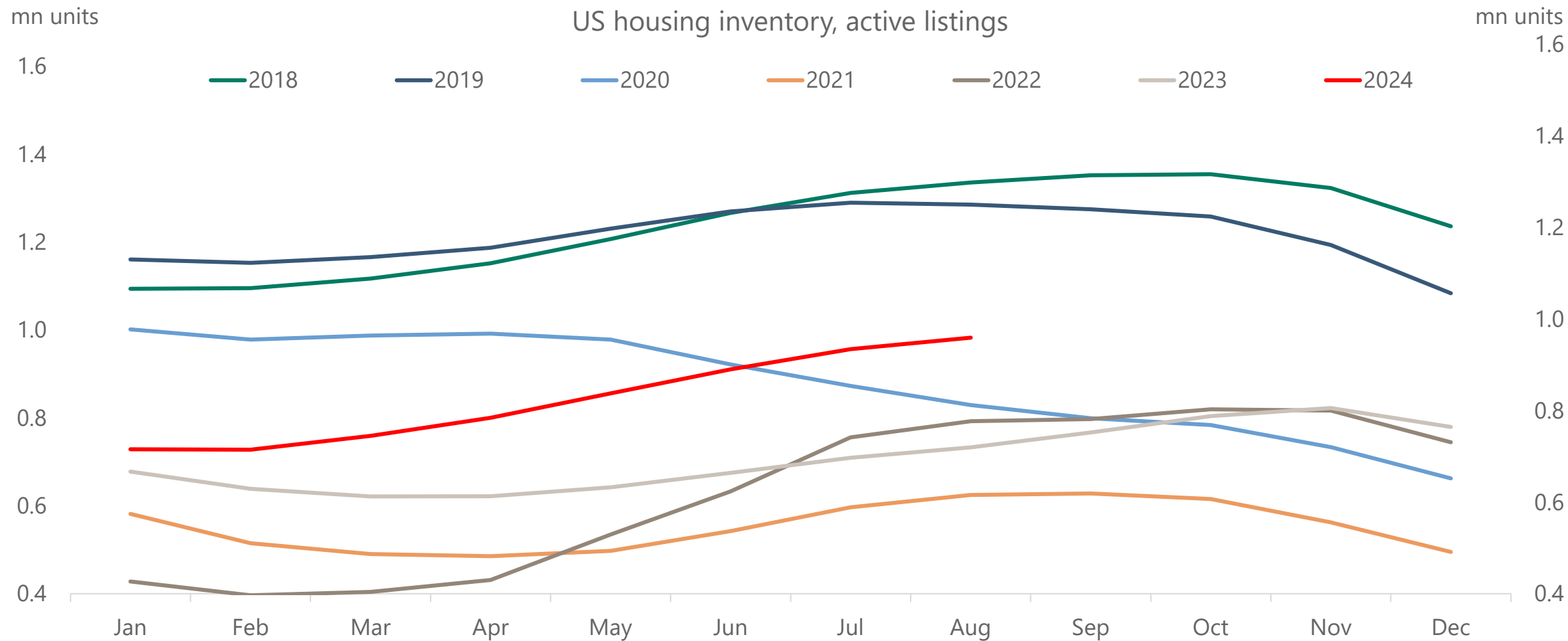


# Existing housing inventory very low

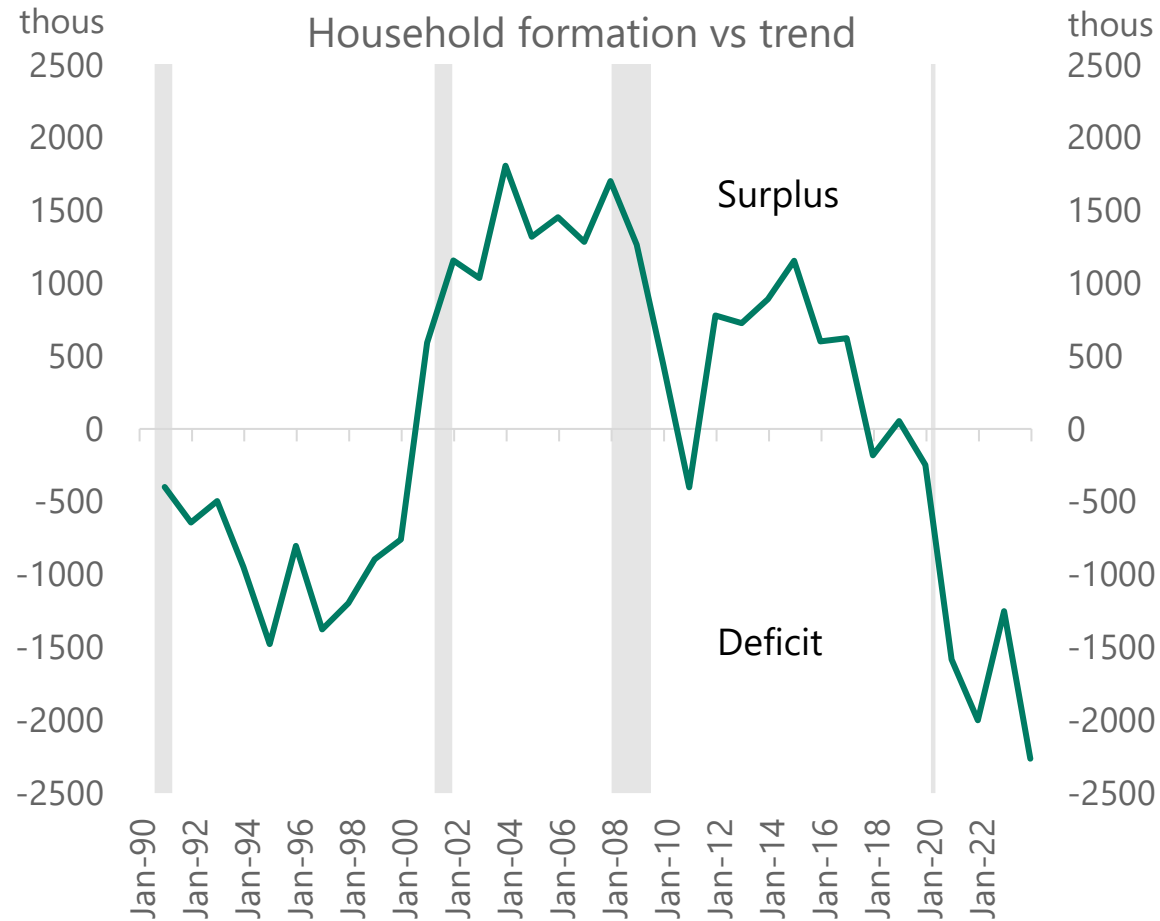
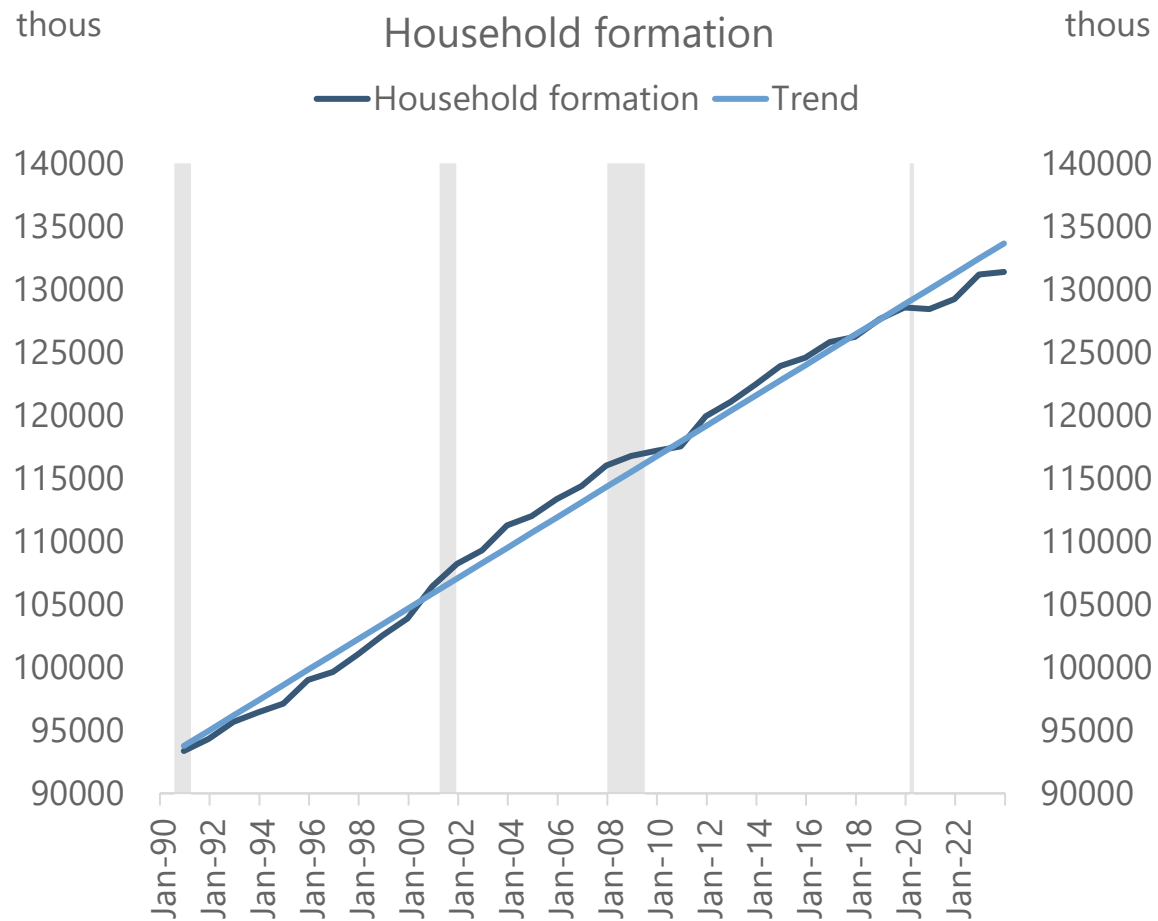


Source: NAR, Apollo Chief Economist

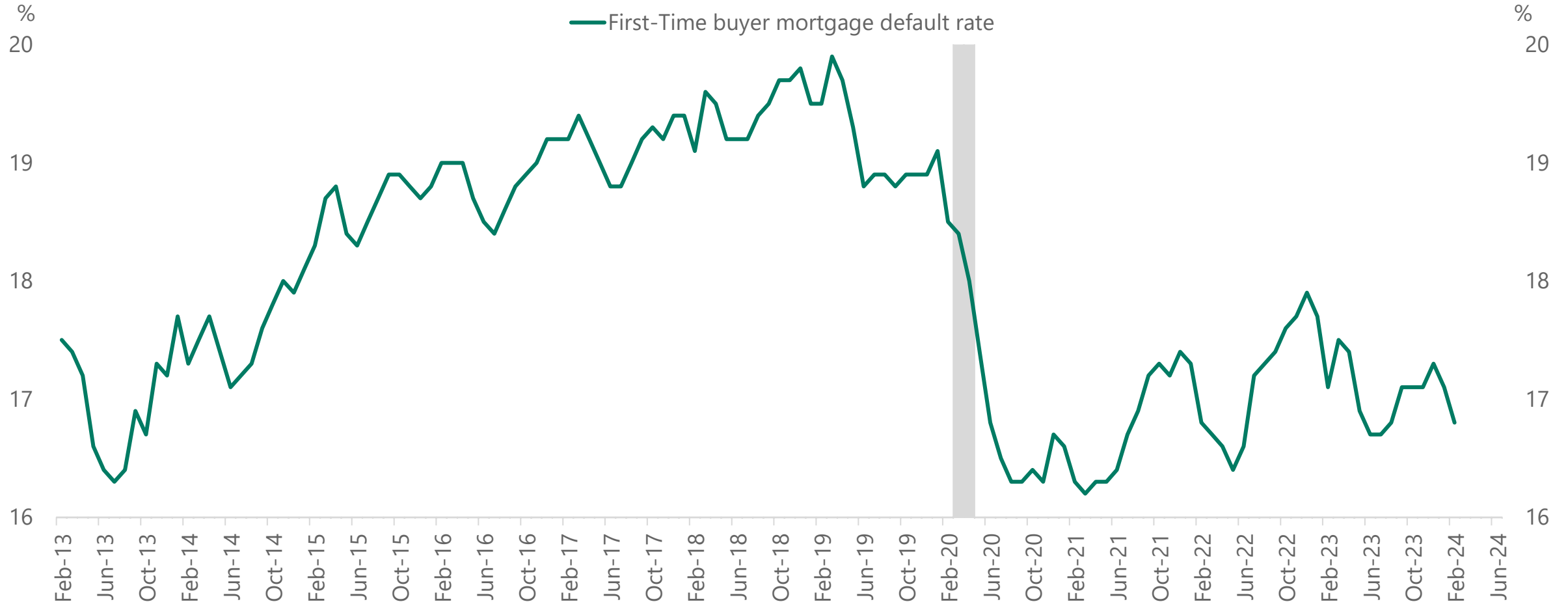
# Low inventory of homes for sale. Has been rising for seasonal reasons.



# US has an estimated deficit of 2.3mn homes

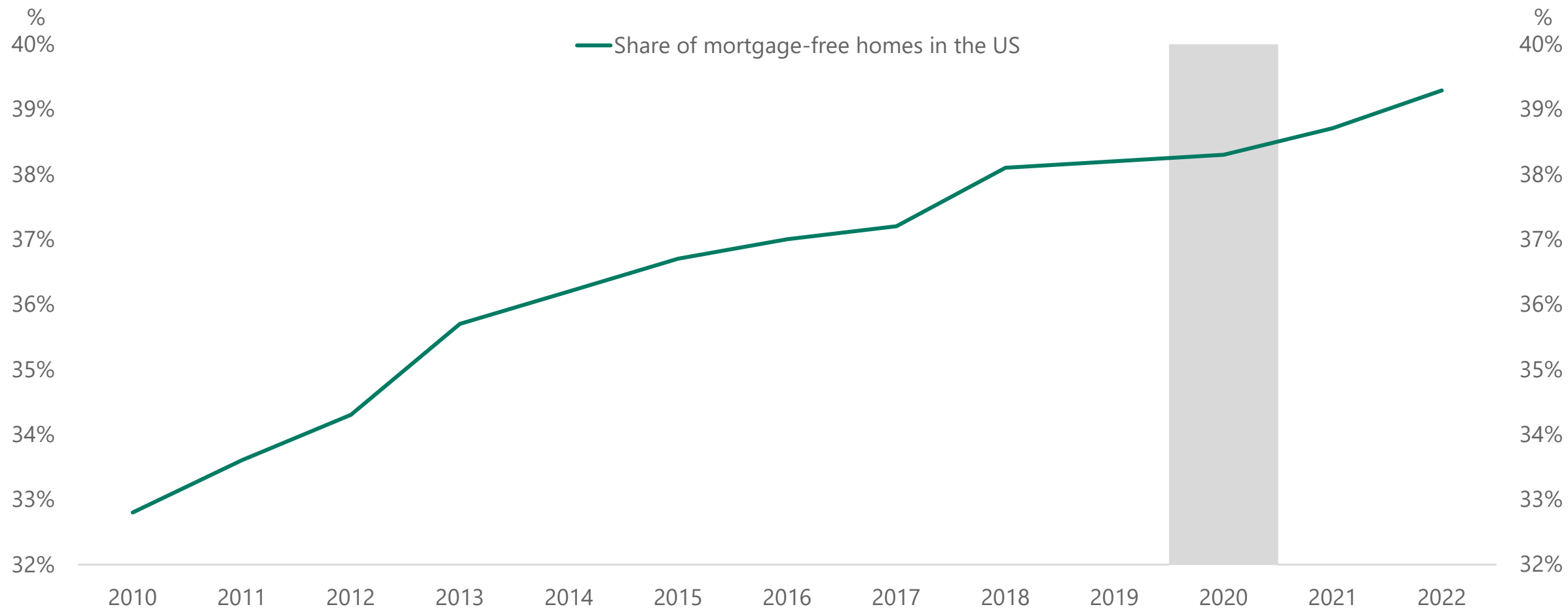


# Default rates very low for first-time homebuyers



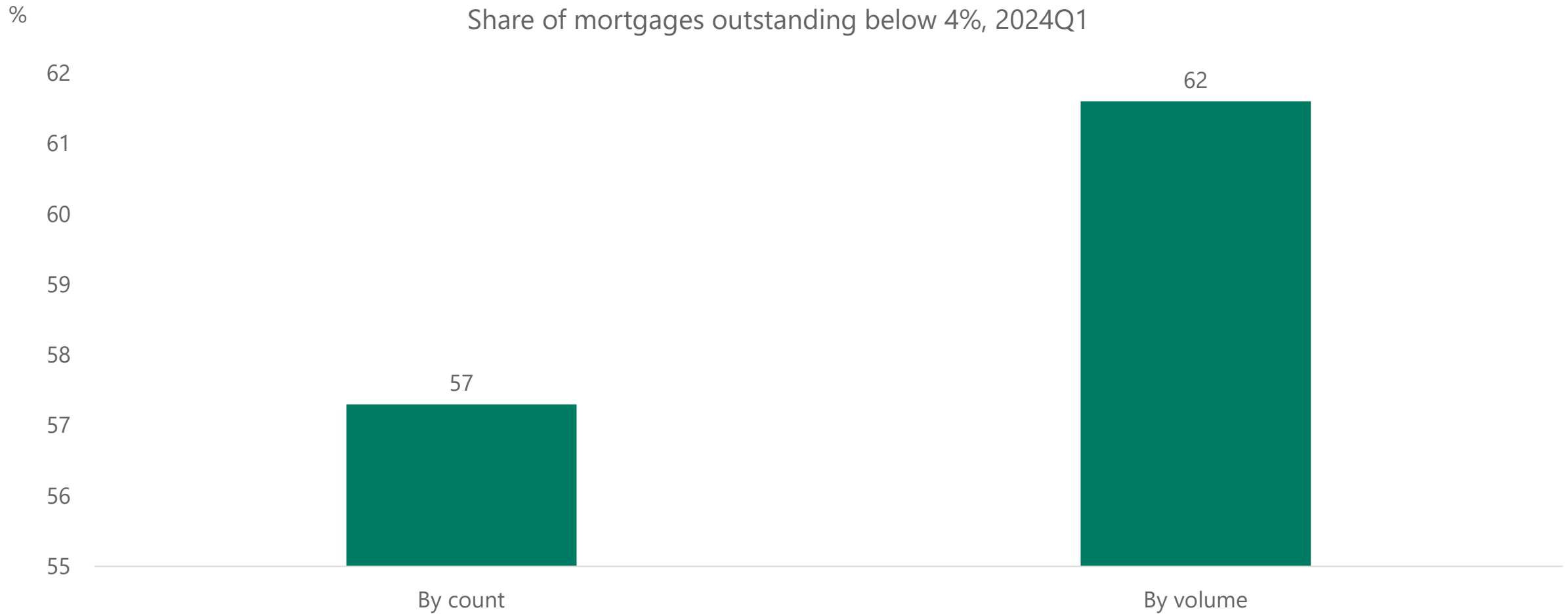
Source: American Enterprise Institute, Haver Analytics, Apollo Chief Economist (Note: The First-time Buyer Mortgage Default Rate (FBMDR) is calculated using the same methodology as for the National Mortgage Default Rate (NMDR). The only difference is that the set of included loans is restricted to first-time buyers. It uses the default experience of loans originated in 2007 as a benchmark to quantify how new mortgage loans would perform if they were hit with a market collapse on par with the recent crisis. The index classifies loans as low-risk, medium-risk, and high-risk.)

# Almost 40% of US homes don't have a mortgage

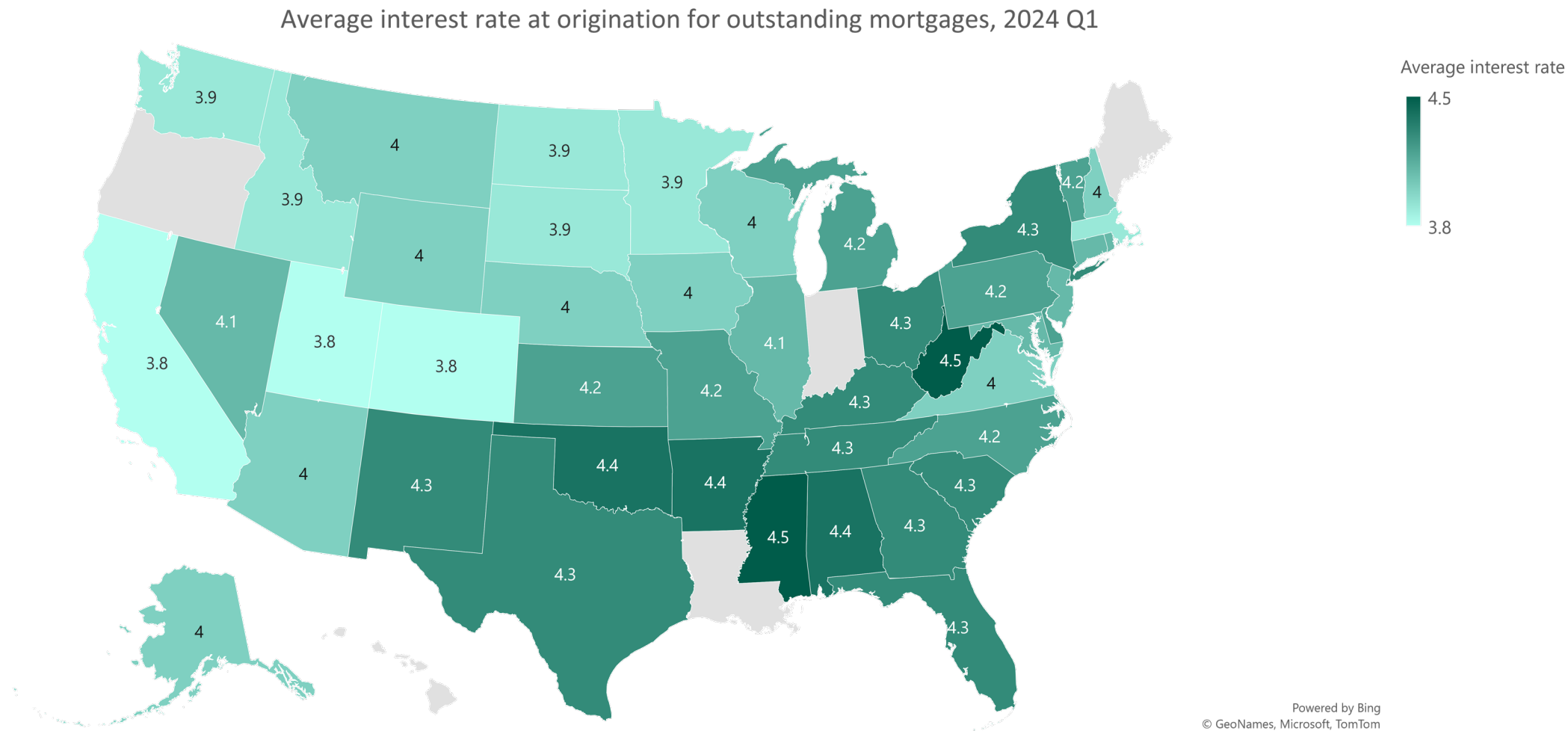




# More than half of all mortgages outstanding have an interest rate below 4%

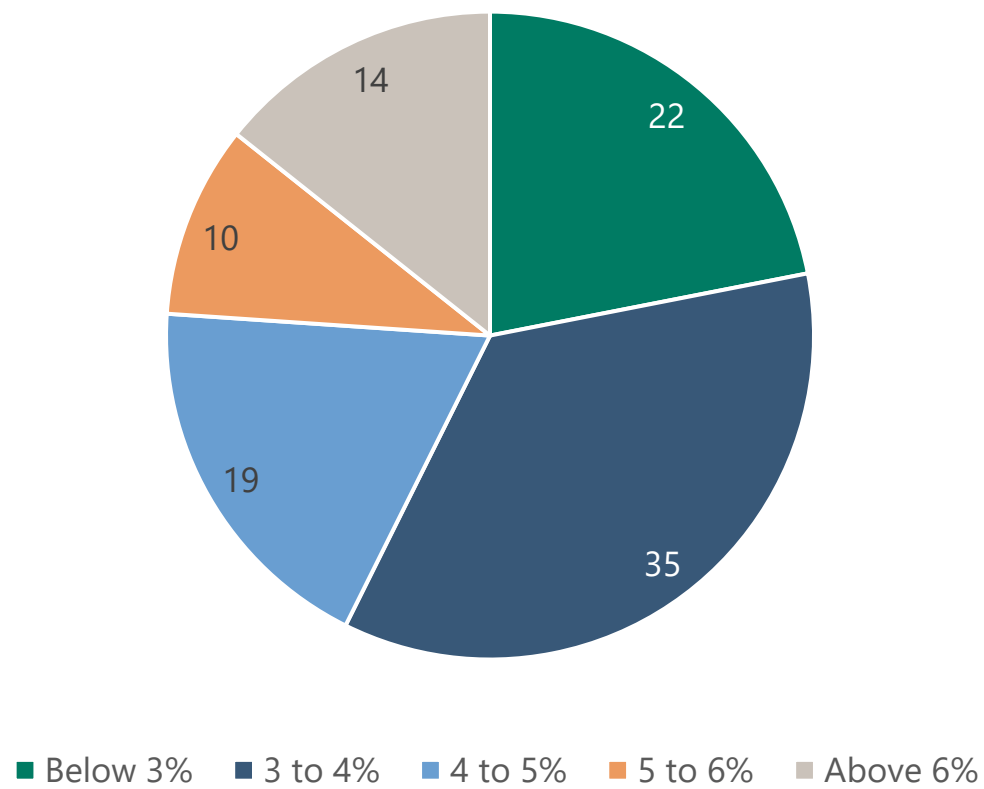


# Average interest rate at origination below current levels of 30-year fixed mortgage rate

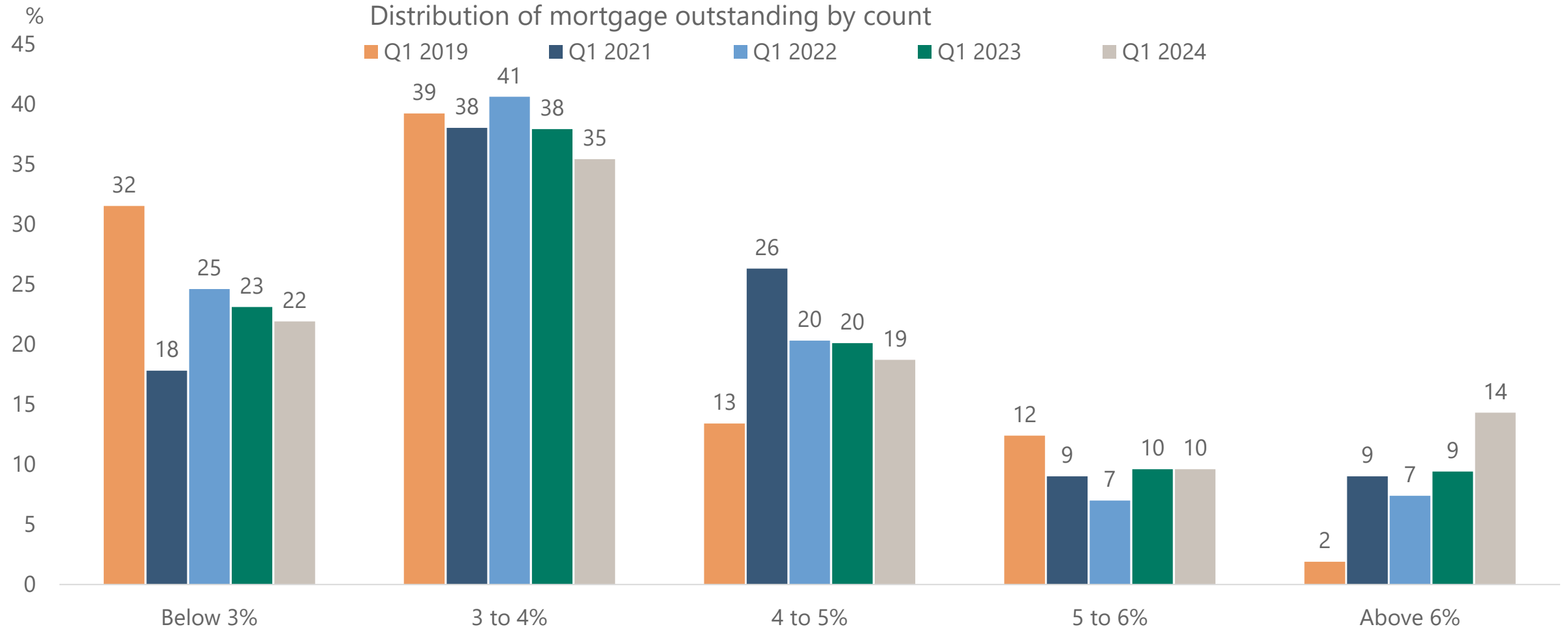


# Share of mortgages outstanding by interest rate

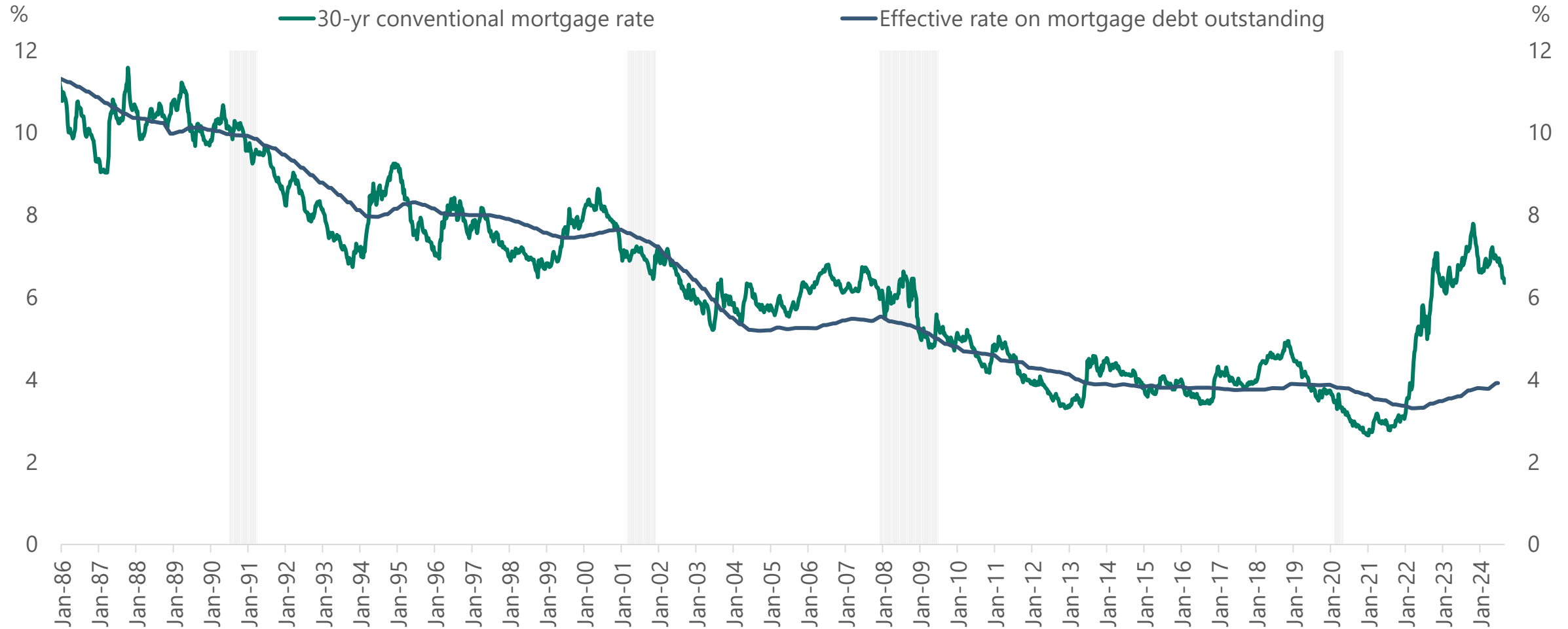
Share of mortgages outstanding by interest rate at origination by count, 2024 Q1



# Distribution of interest rates on outstanding mortgages

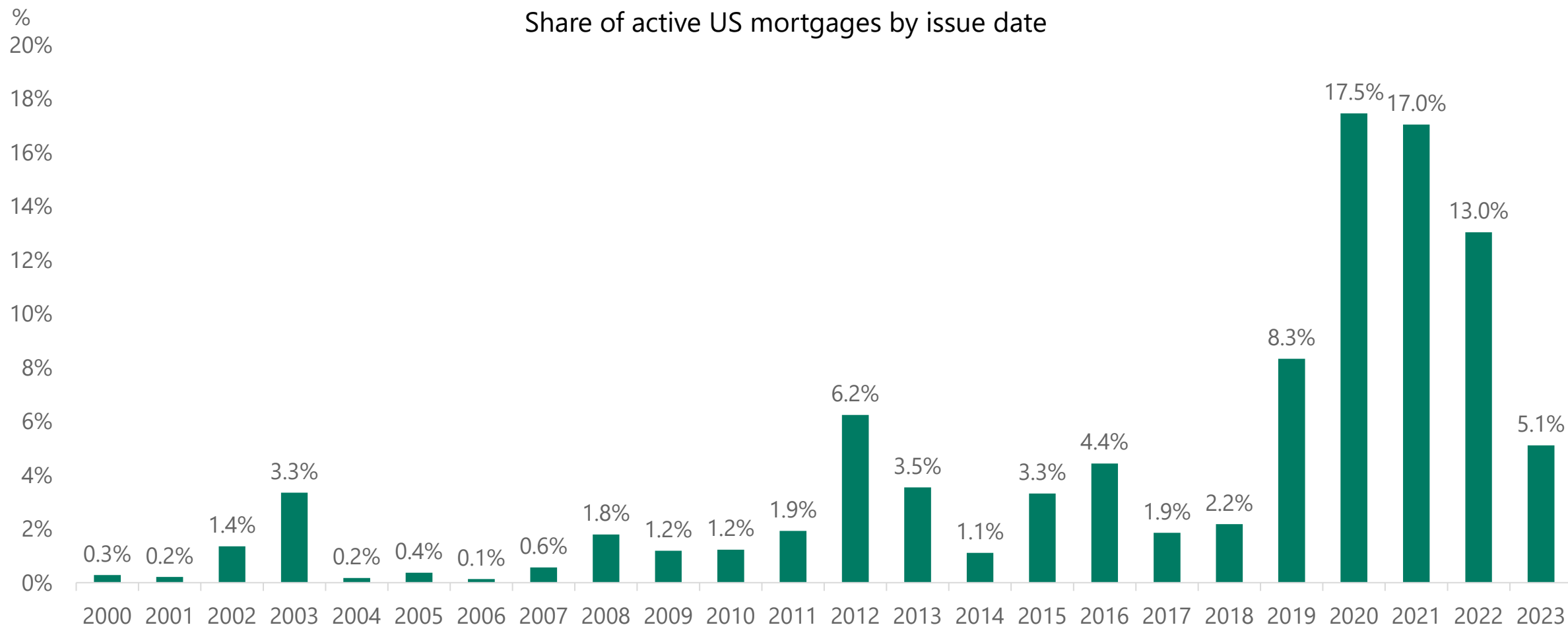


# Effective outstanding mortgage rate is 3.9%



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.

# 63% of all mortgages outstanding were issued after 2018



# Monthly mortgage payment on a new mortgage has declined to \$2700



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.)

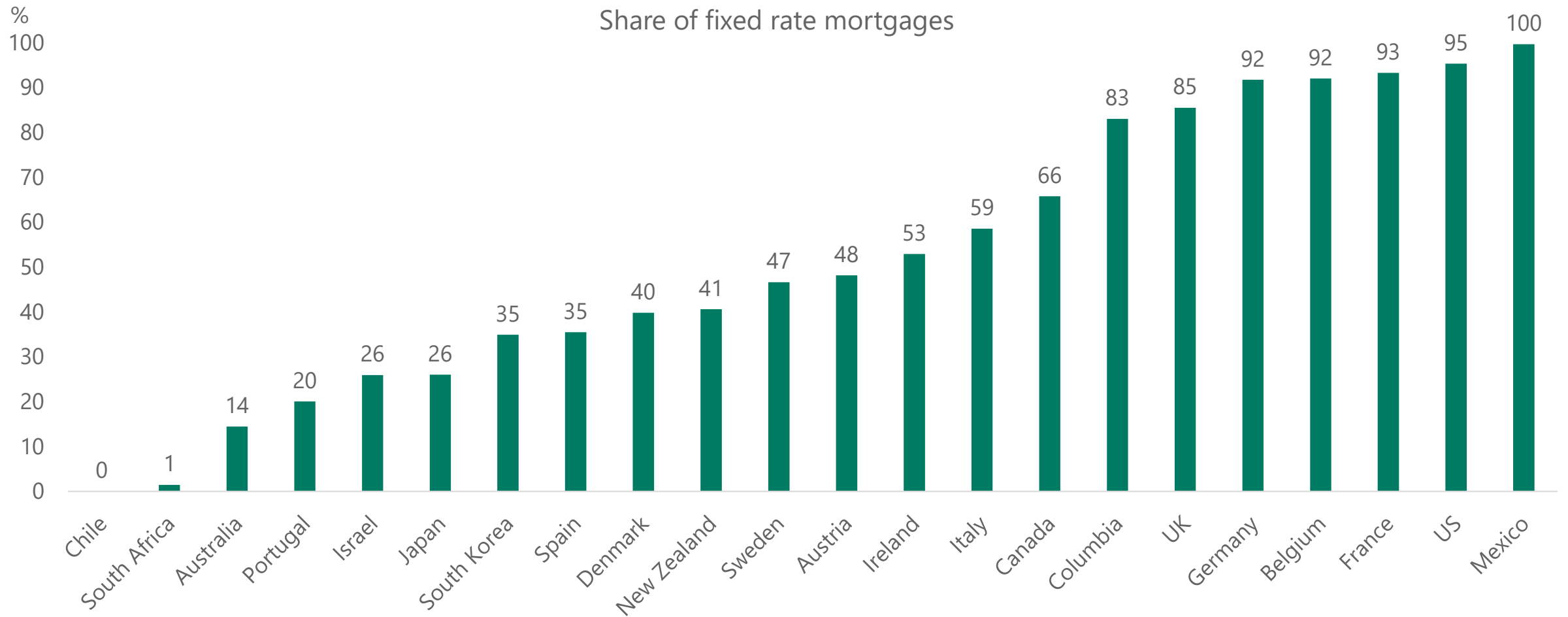
# ARM share of total mortgage applications has declined to 8%



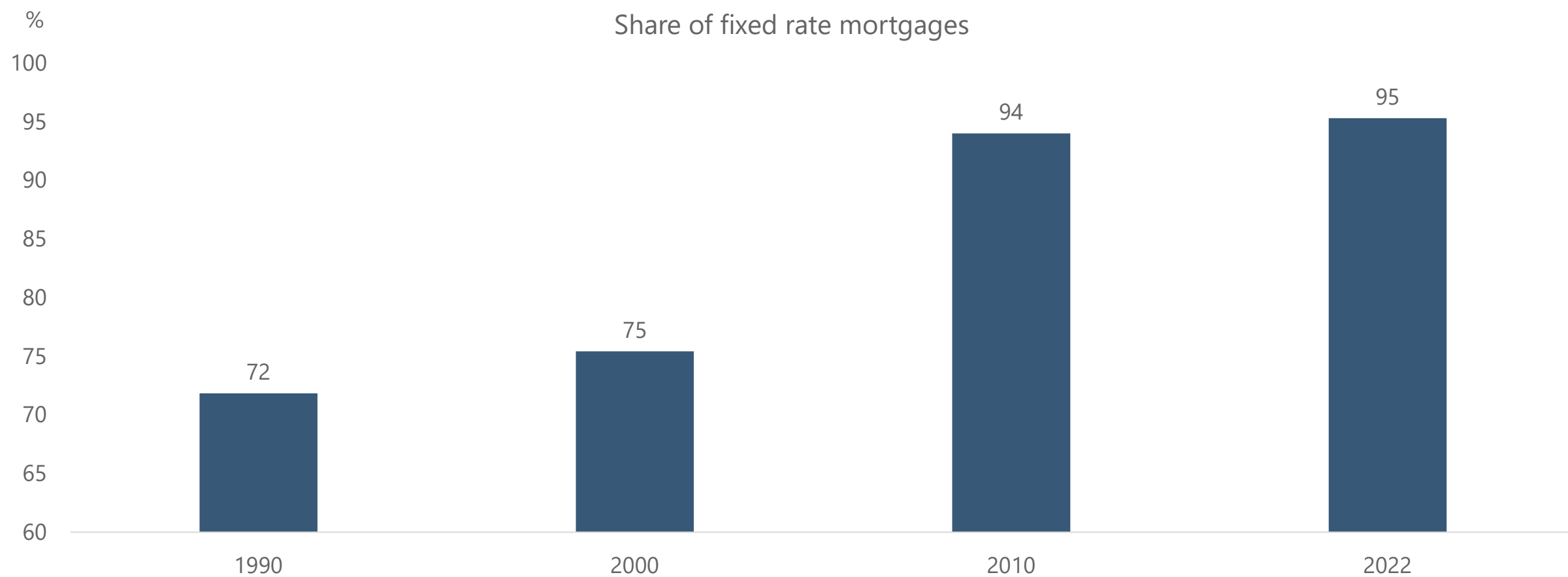
Source: MBA, Bloomberg, Apollo Chief Economist (Note: It is 5-year ARM)



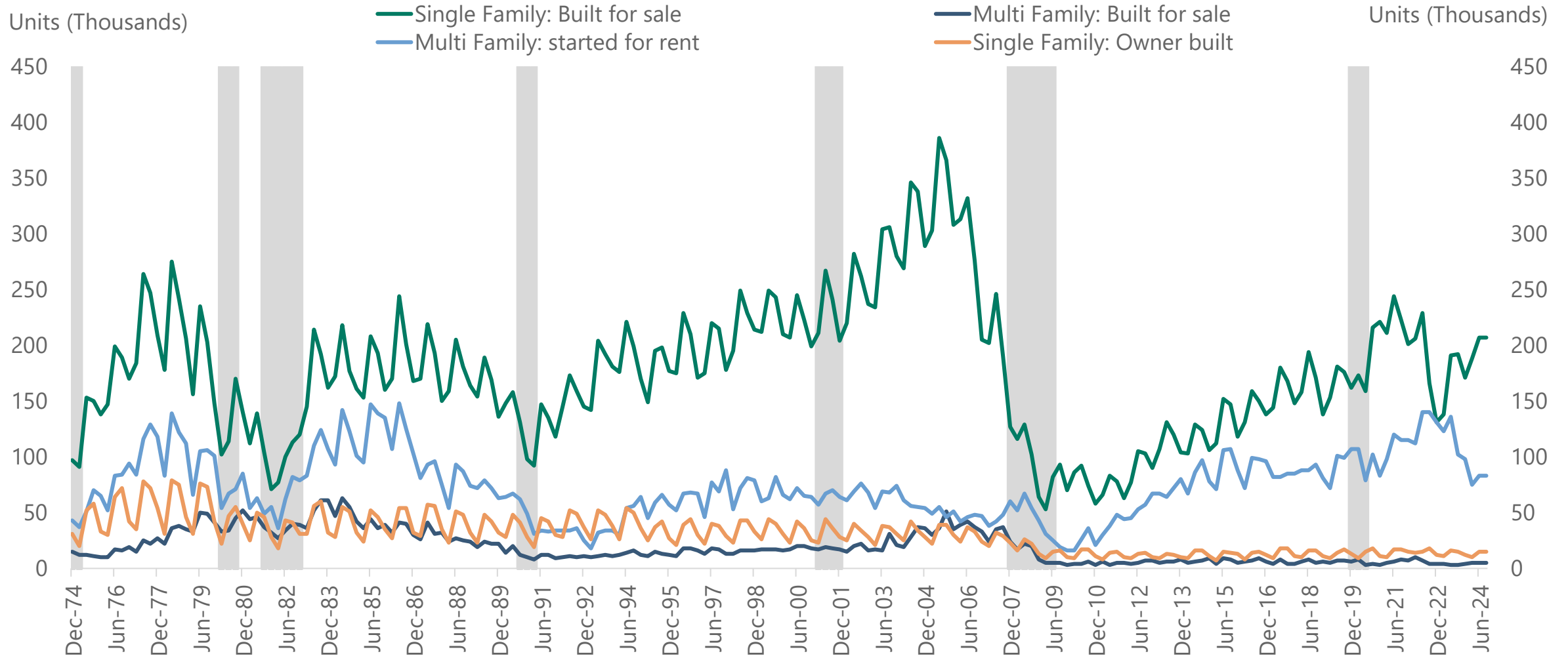
# Share of fixed rate mortgages by country



# Share of fixed rate mortgages

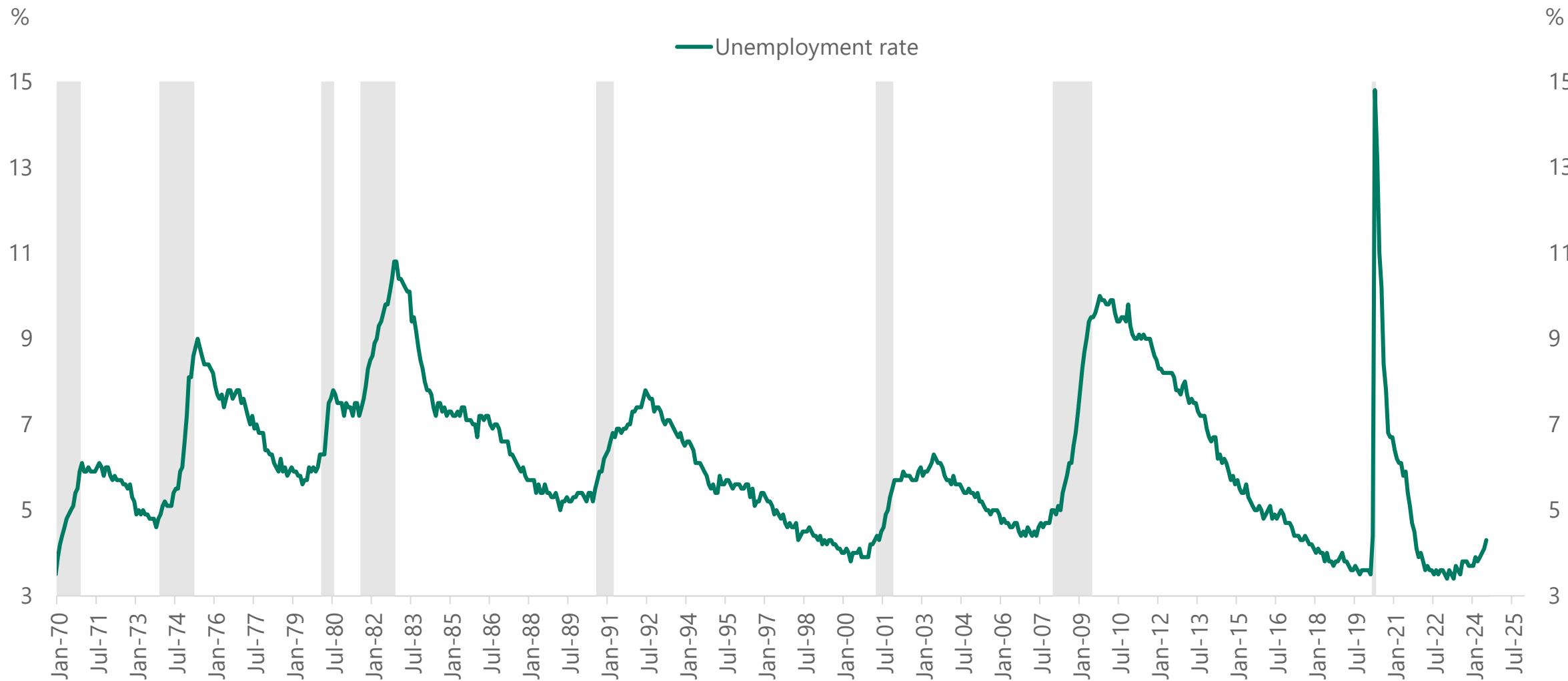


# Intent of housing starts: Multi family for rent declining. Single family for sale rising.

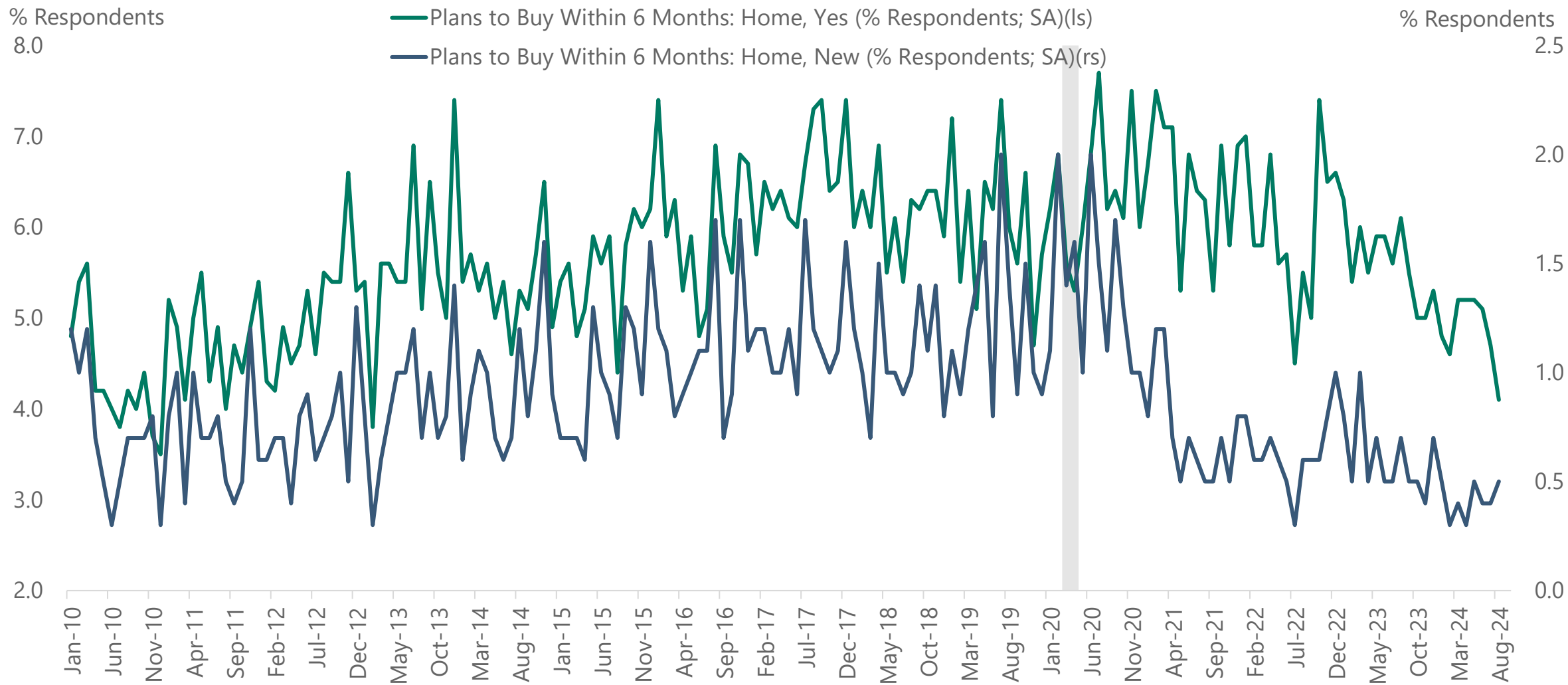


1) Housing Demand: High mortgage rates, high home prices, and rising unemployment slowing demand

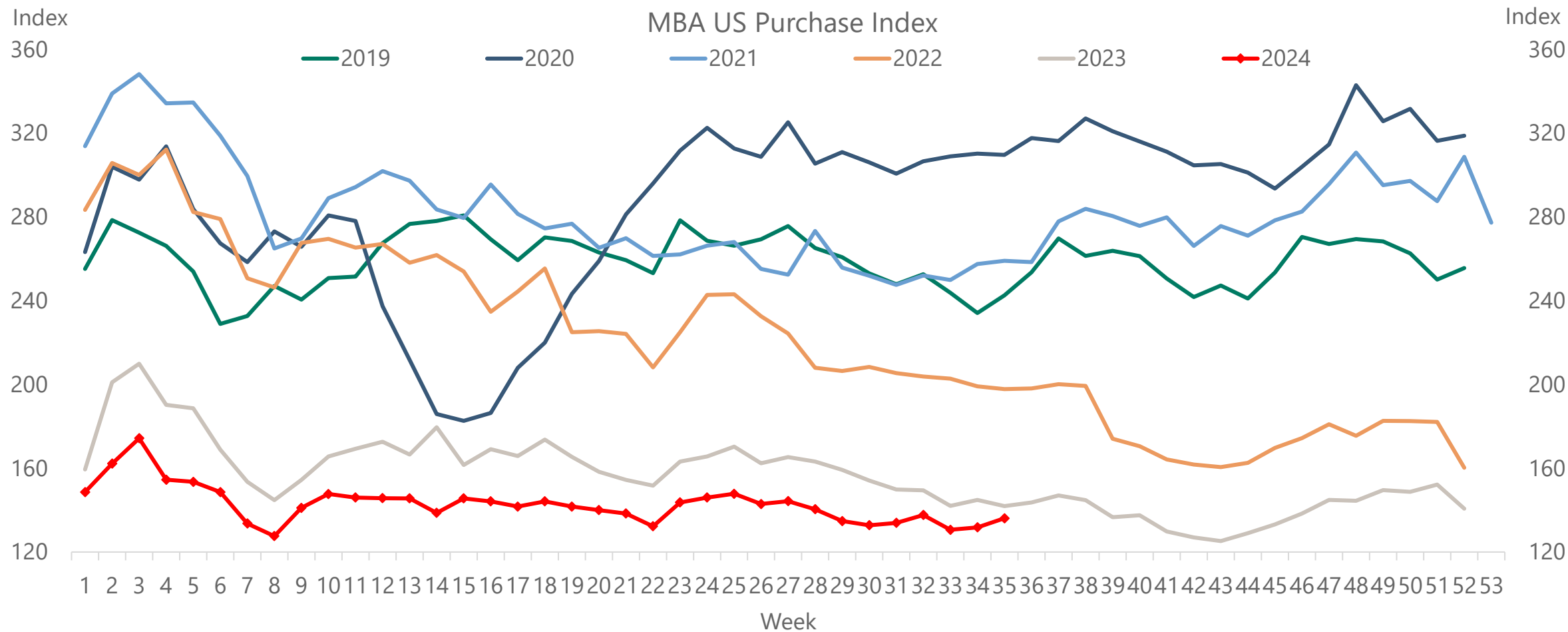
# Any additional increase in the unemployment rate could be a risk to housing demand



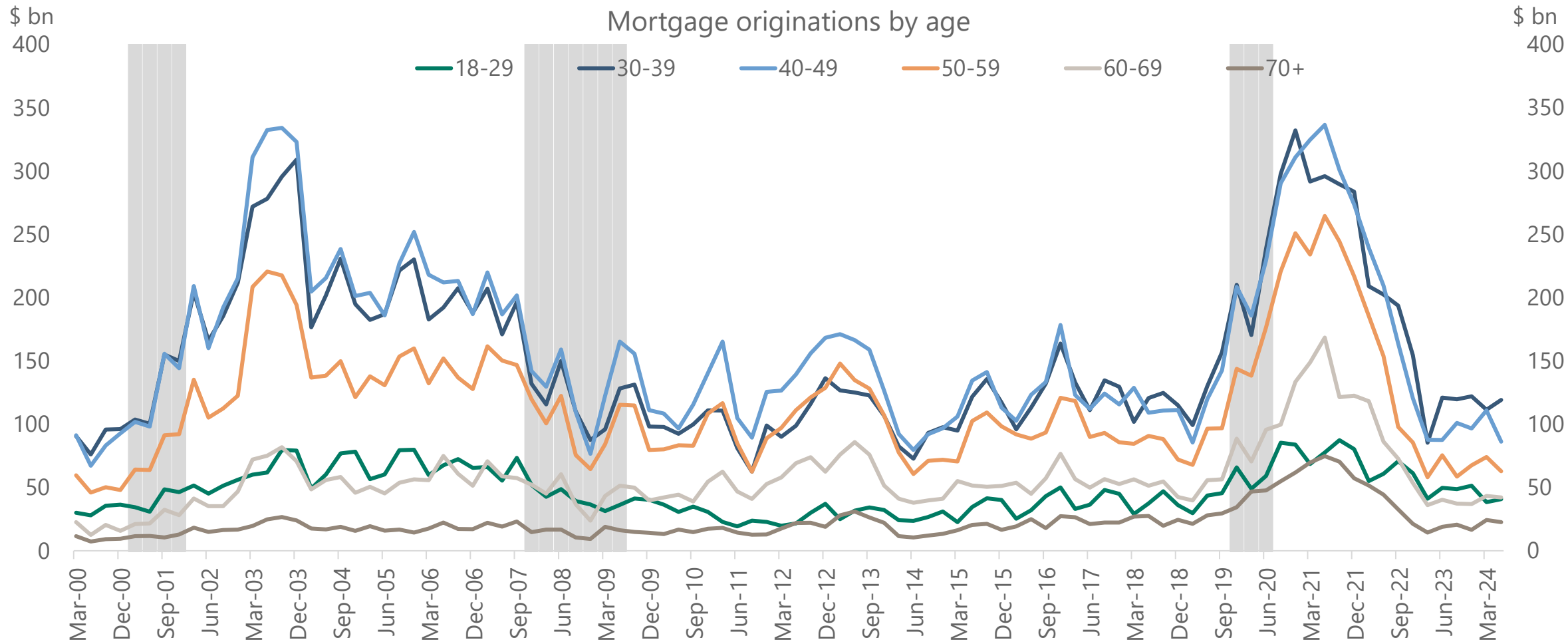
# Home buying plans



# Mortgage purchase applications remain much lower than normal

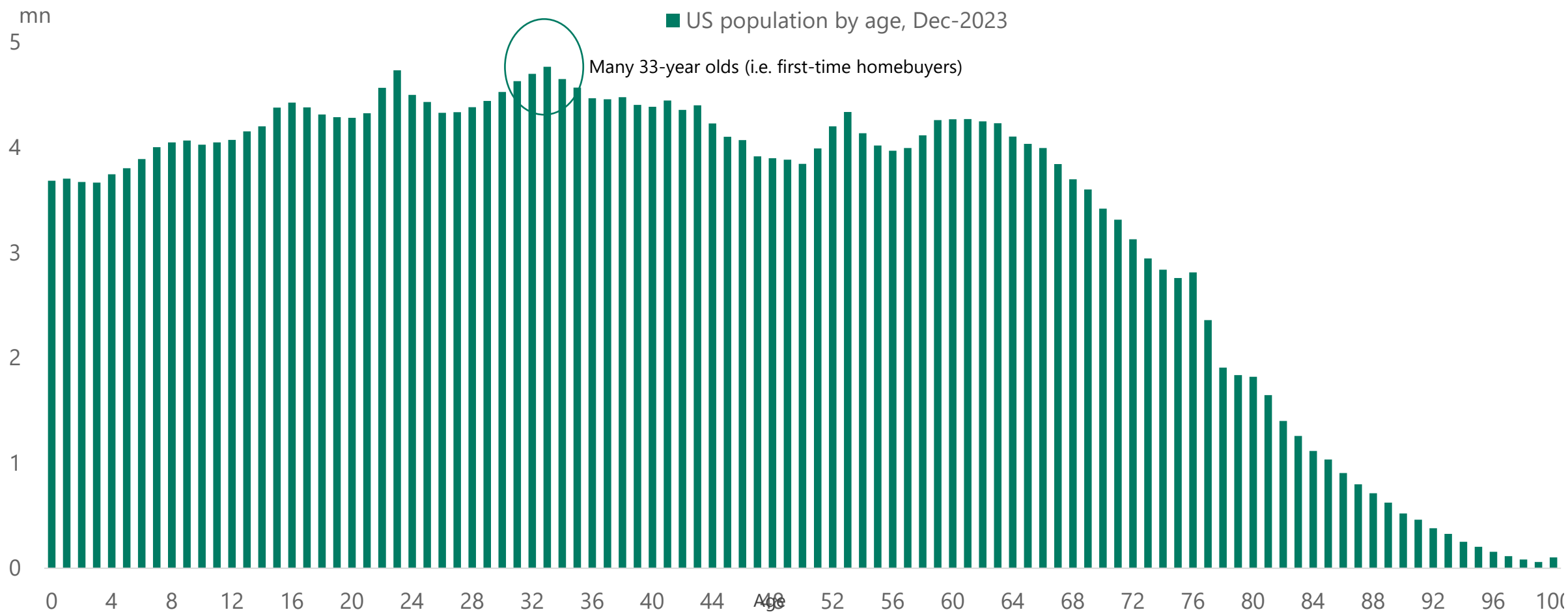


# Mortgage originations back at pre-pandemic levels



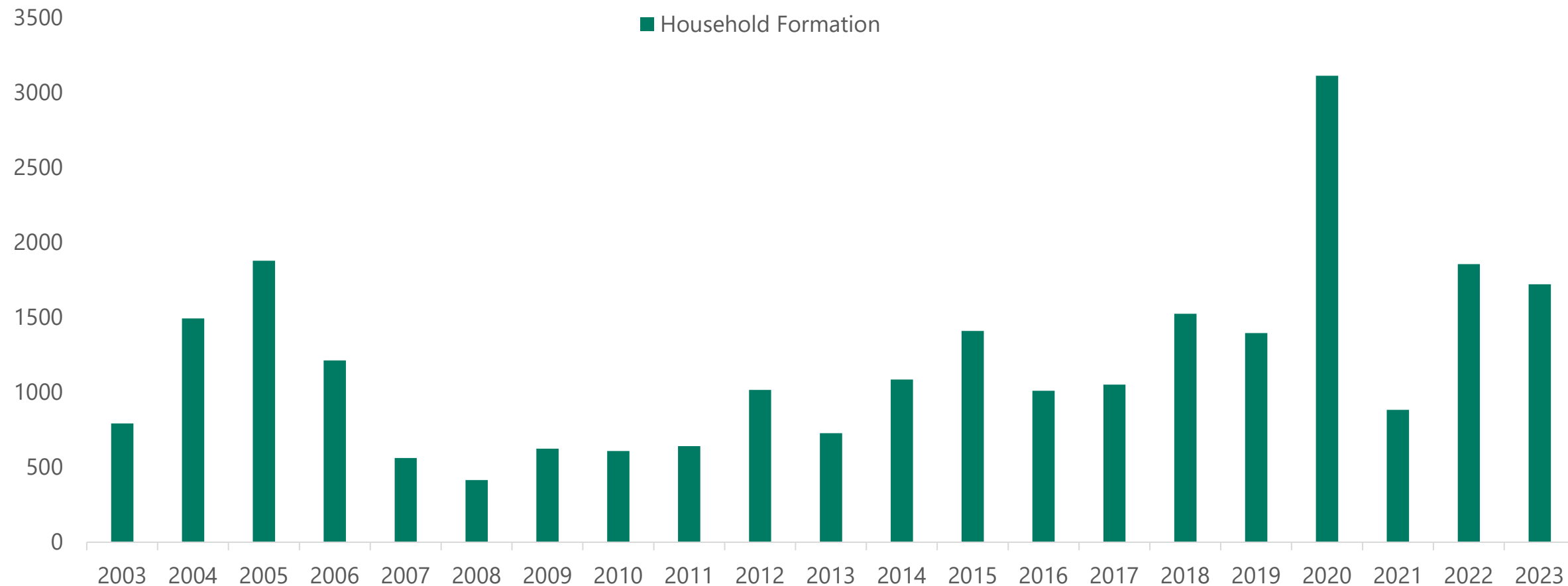


# Demographics are a tailwind to housing demand

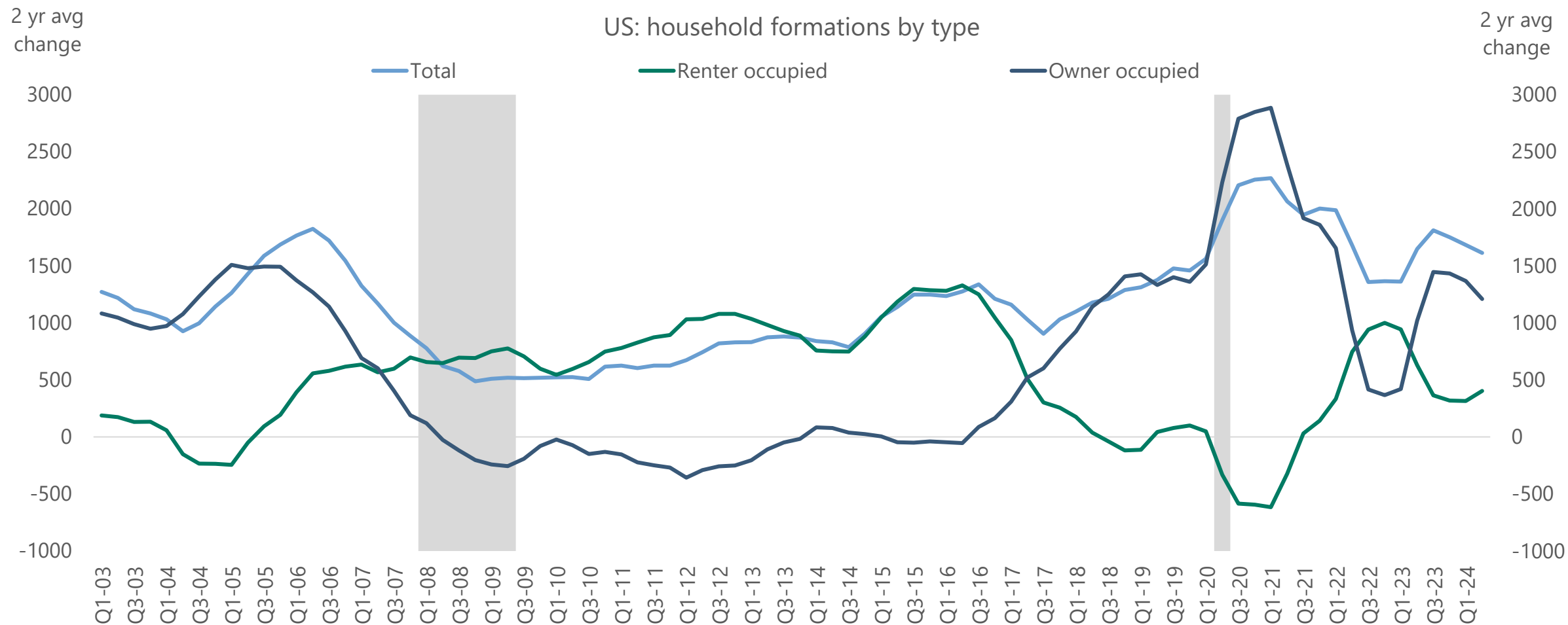


# Rebounding household formation is a tailwind to housing

Thousands of units

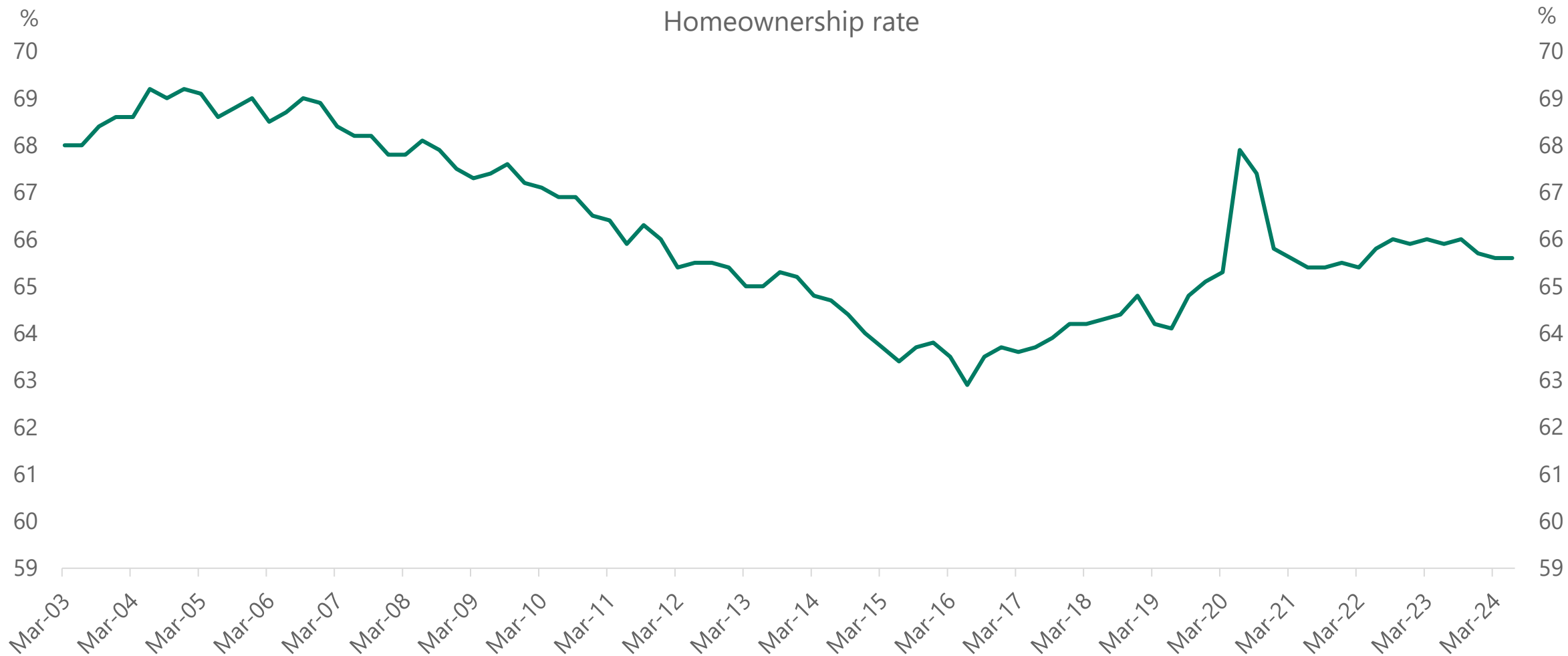


# Increase in the number of owner-occupied homes recently

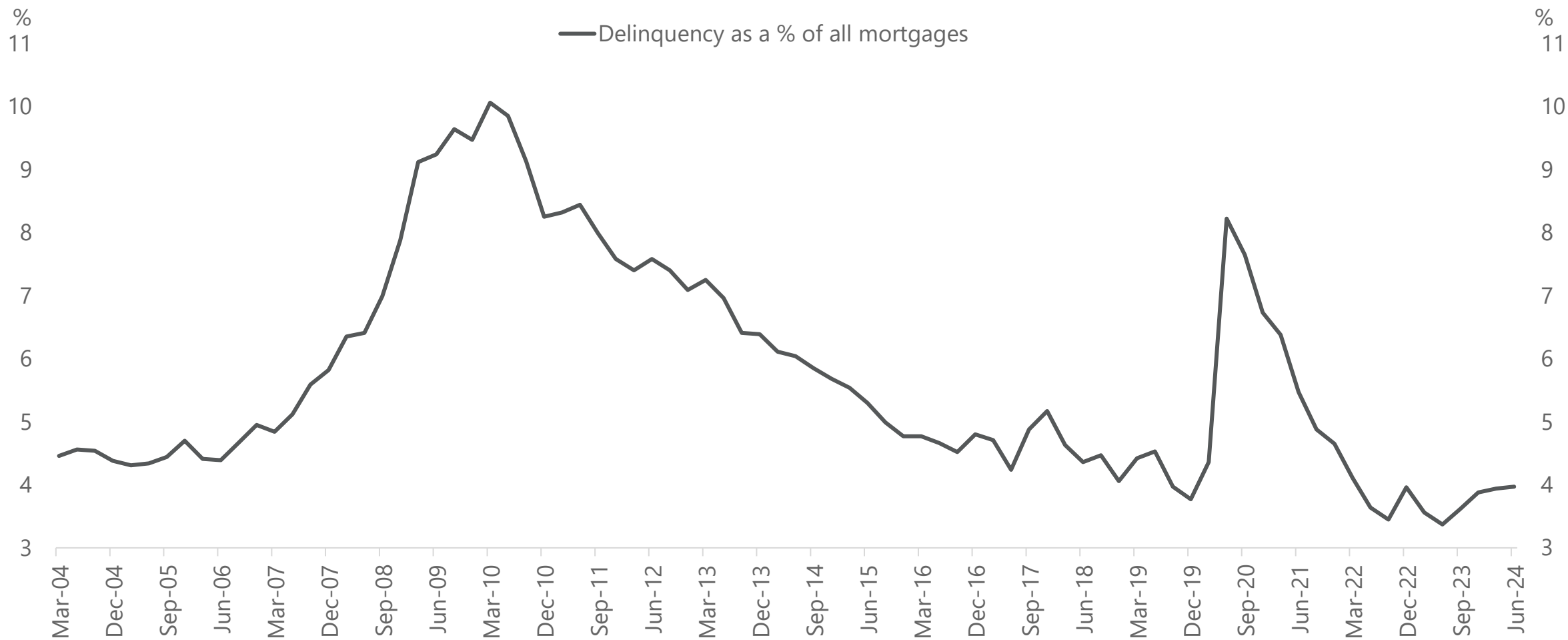


Source: Census Bureau, Haver, Apollo Chief Economist

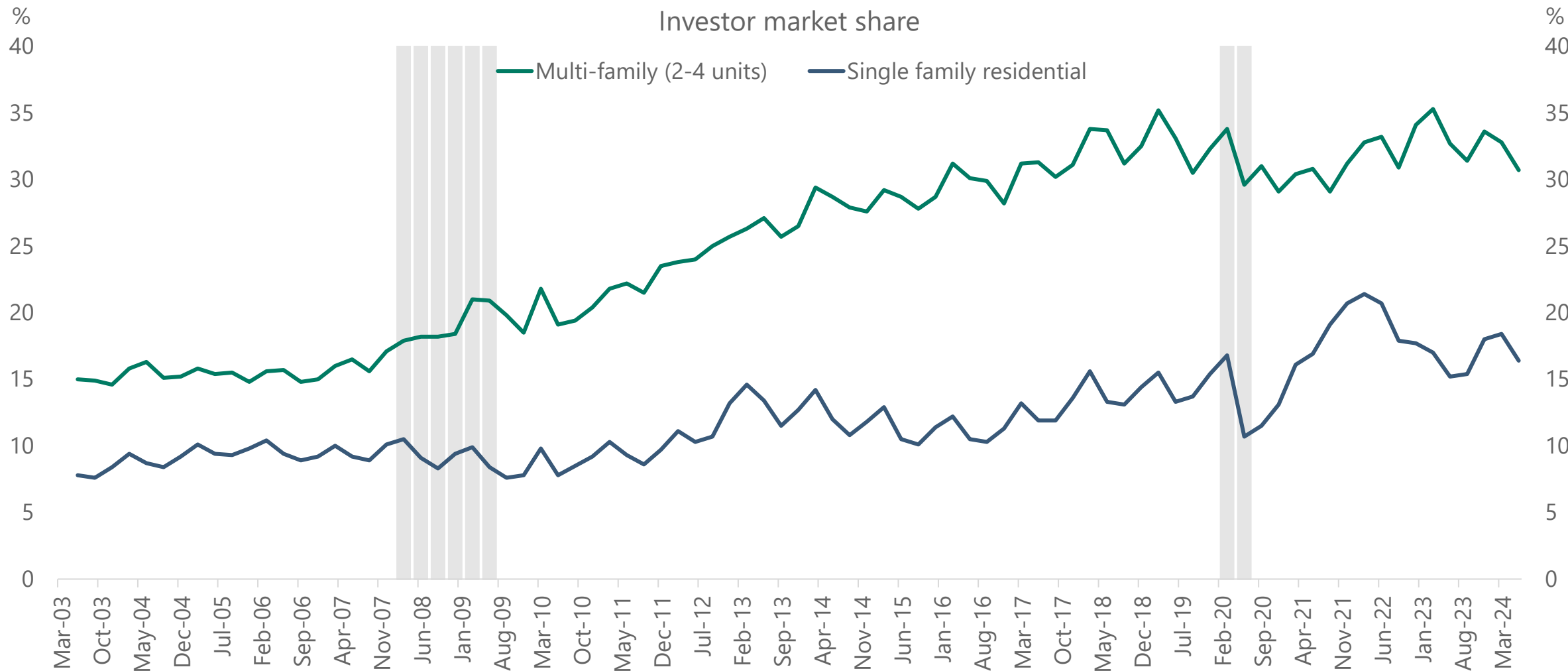
# Homeownership rate moving sideways



# Delinquency rate for mortgages very low

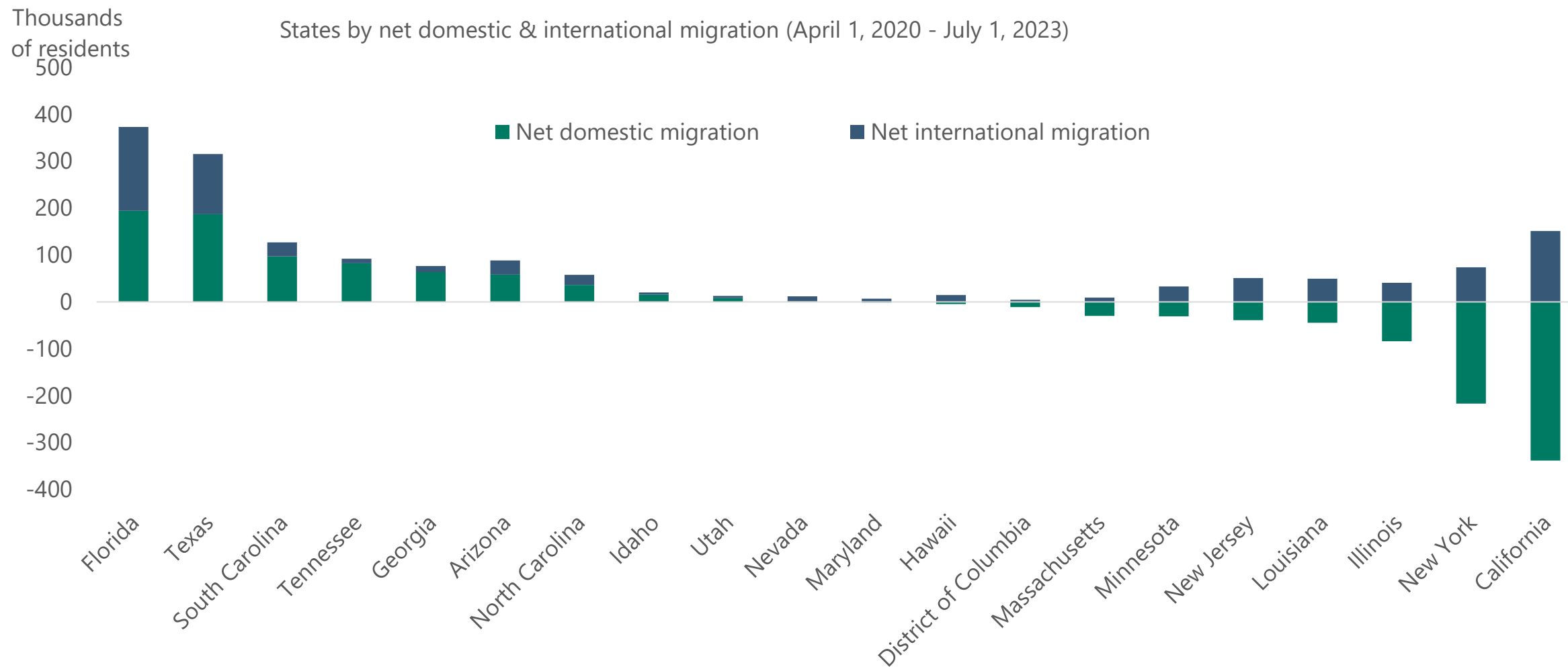


# Investor share of single-family is stable

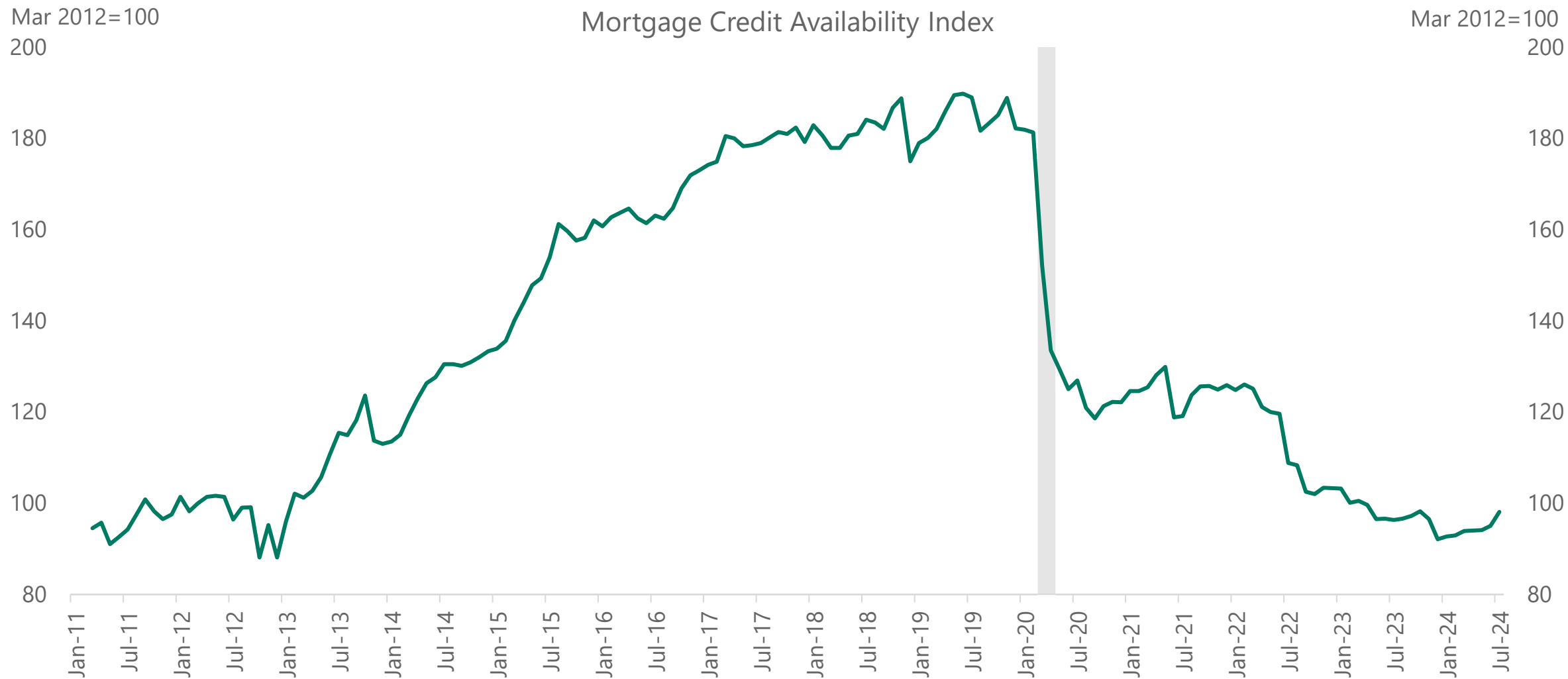


Source: Redfin, Apollo Chief Economist (Definition of Investor market share: the percentage of total home sales in which an investor was the buyer)

# Migration out of California and migration into Florida during the pandemic

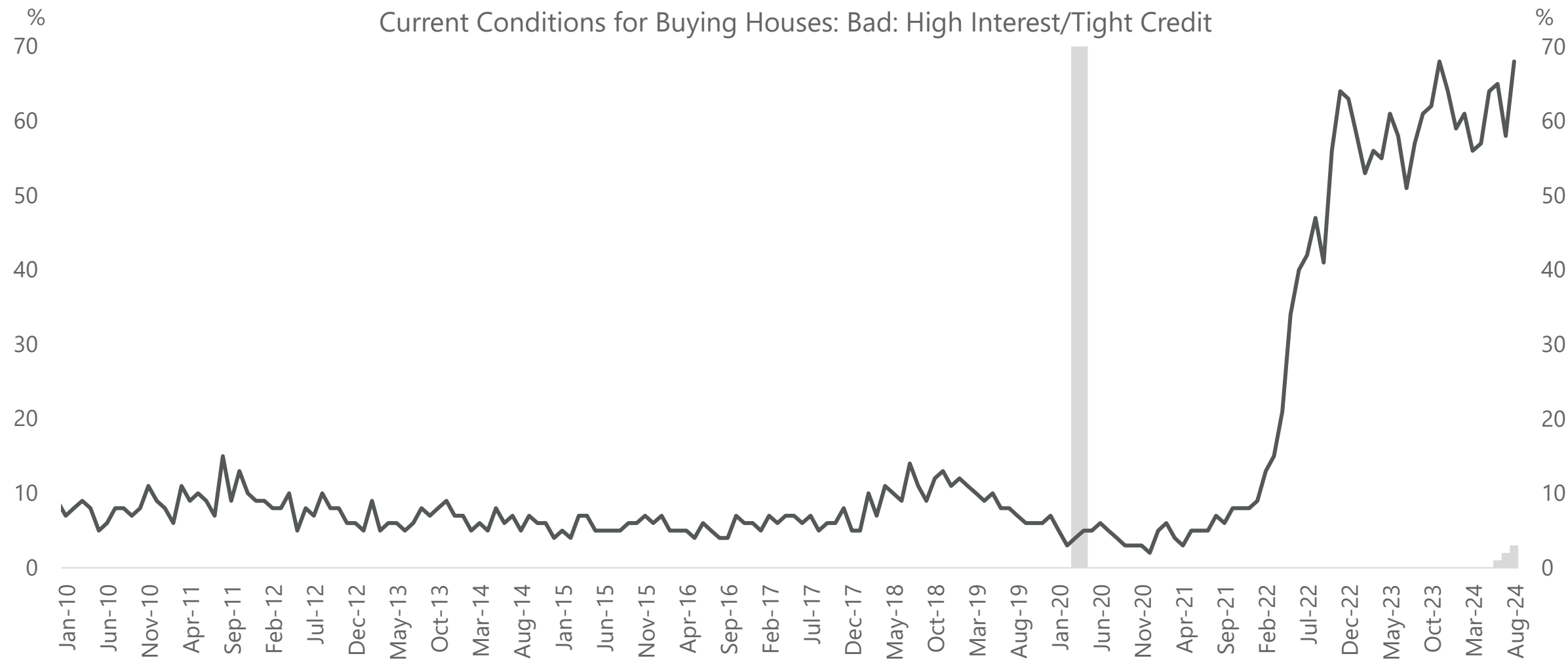


# Availability of mortgage credit at tight levels

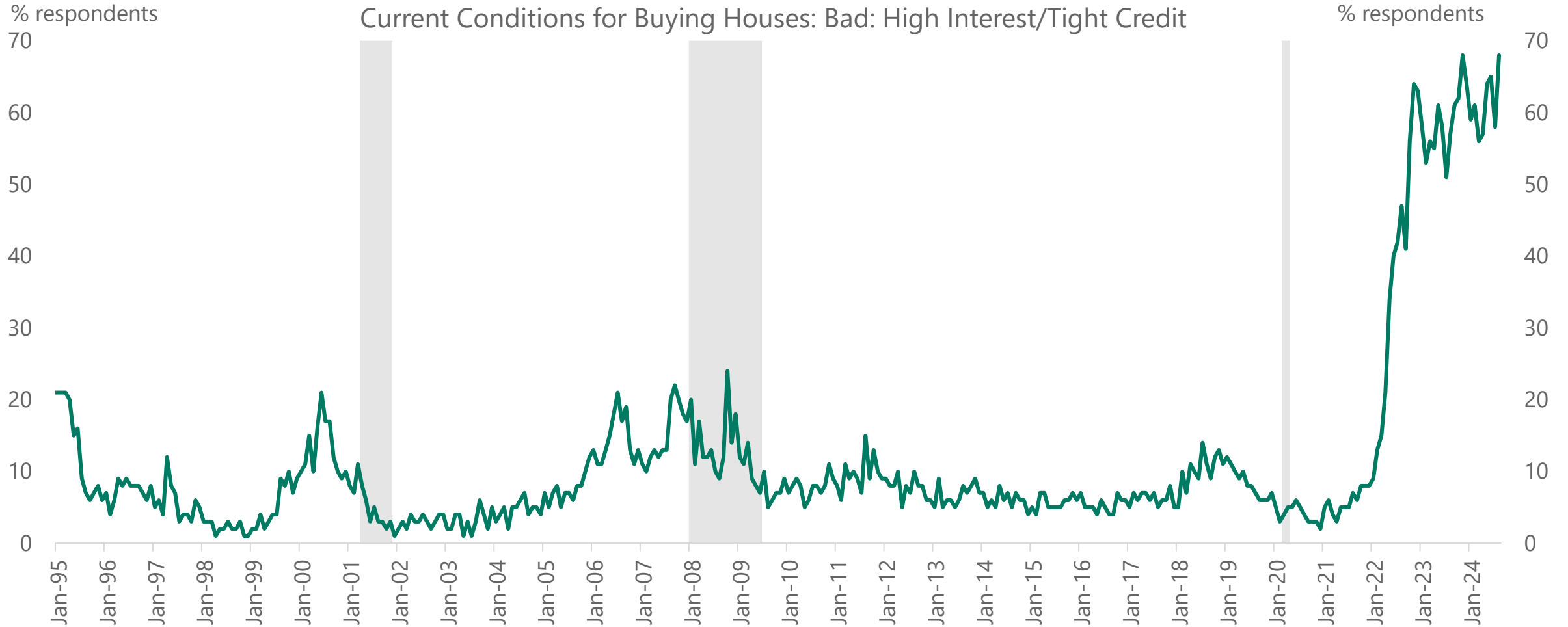




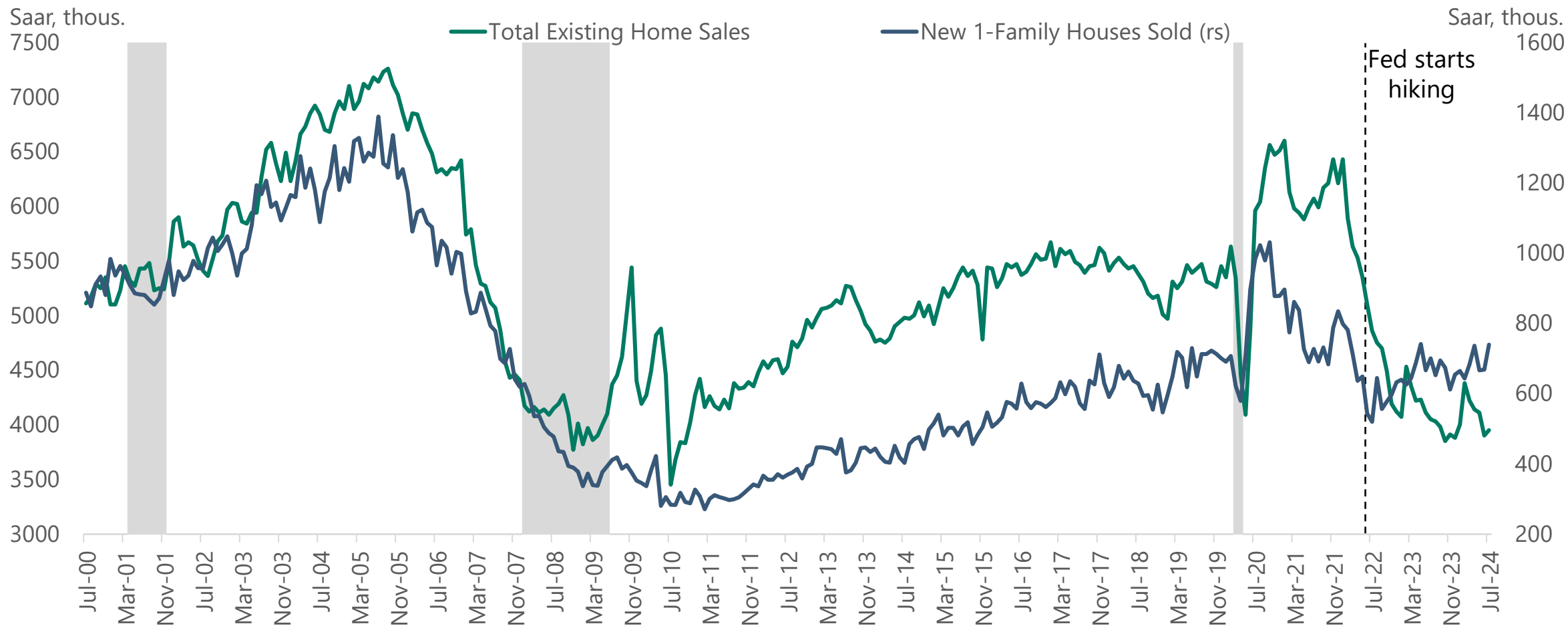
# Homebuyer sentiment negatively impacted by high prices



# 68% of consumers are saying that this is a bad time to buy a house because of high mortgage rates and tight credit

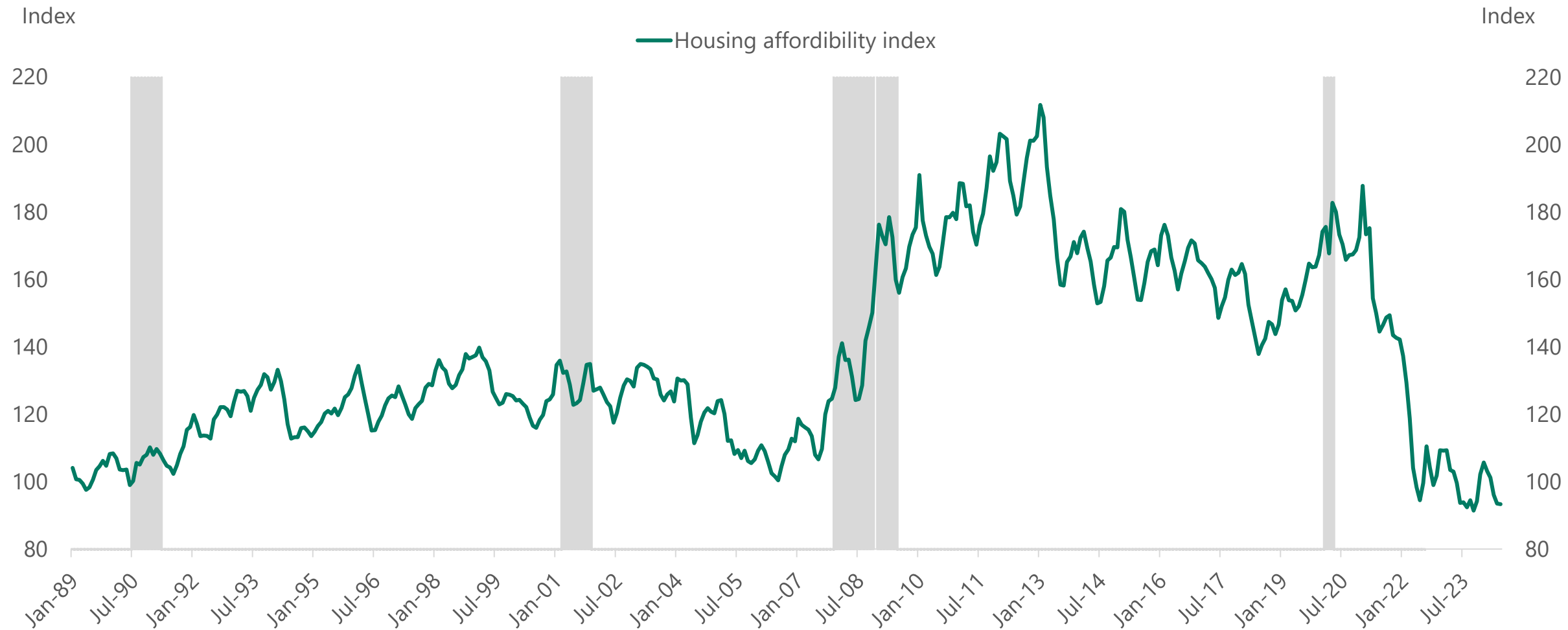


# New and existing home sales lower than normal because of affordability

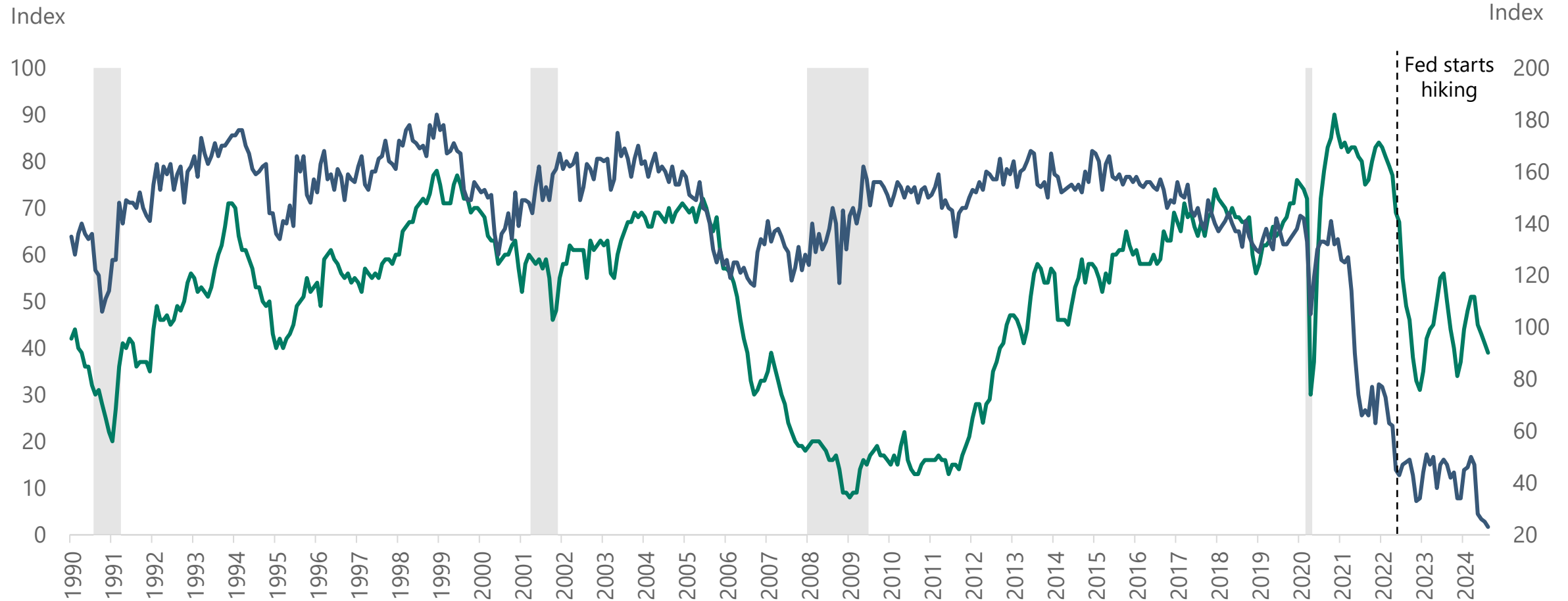


Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus

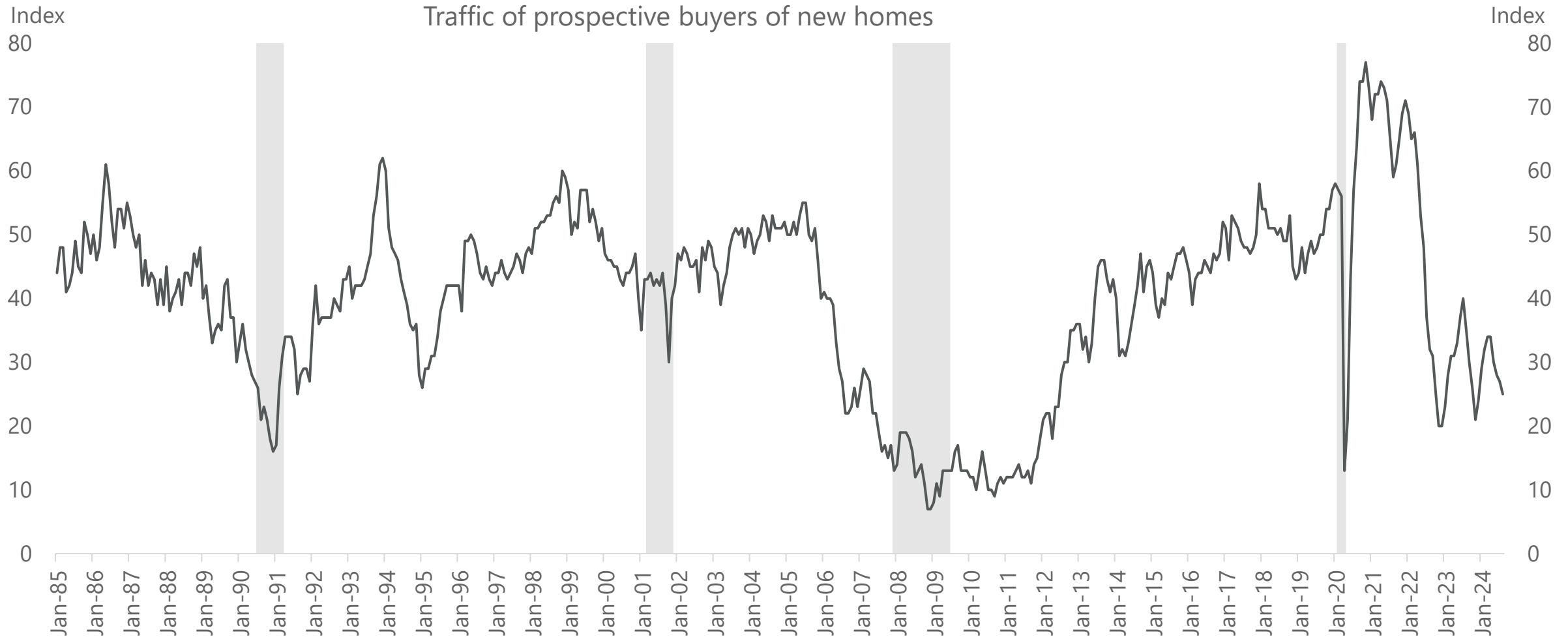
# Housing affordability near record lows



# Homebuyer and homebuilder confidence still depressed because of affordability

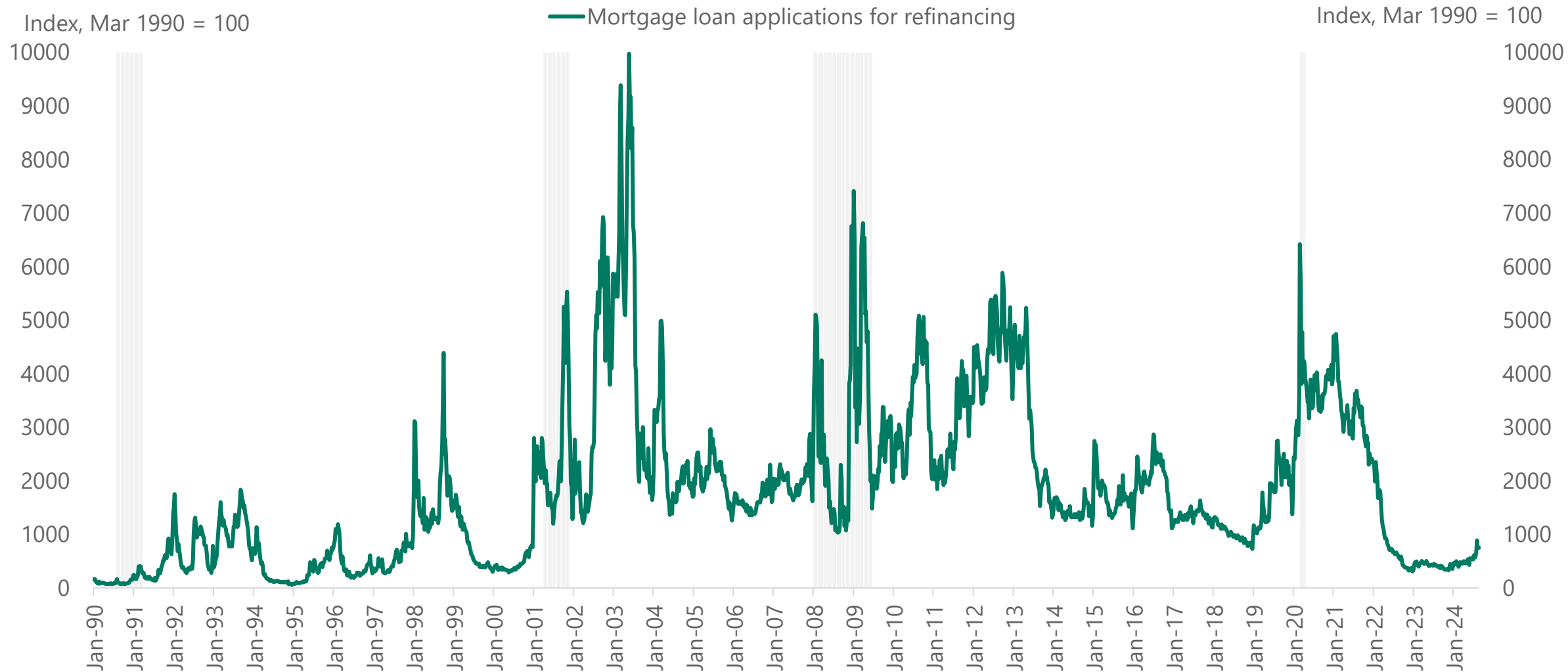


# Traffic of prospective homebuyers lower than normal, likely because of affordability



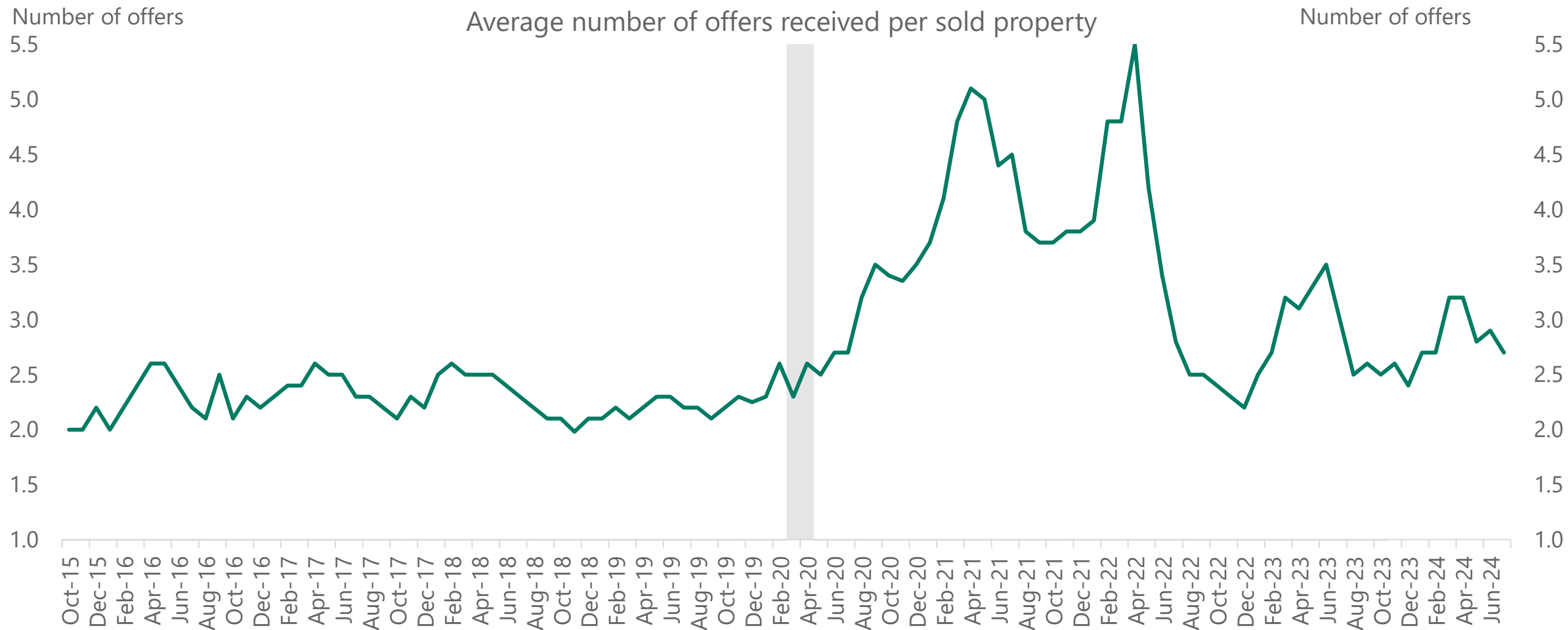
Source: National Association of Homebuilders, Bloomberg, Apollo Chief Economist

# Small increase in the number of homeowners who are refinancing their mortgage



Source: Mortgage Bankers Association, Bloomberg, Apollo Chief Economist

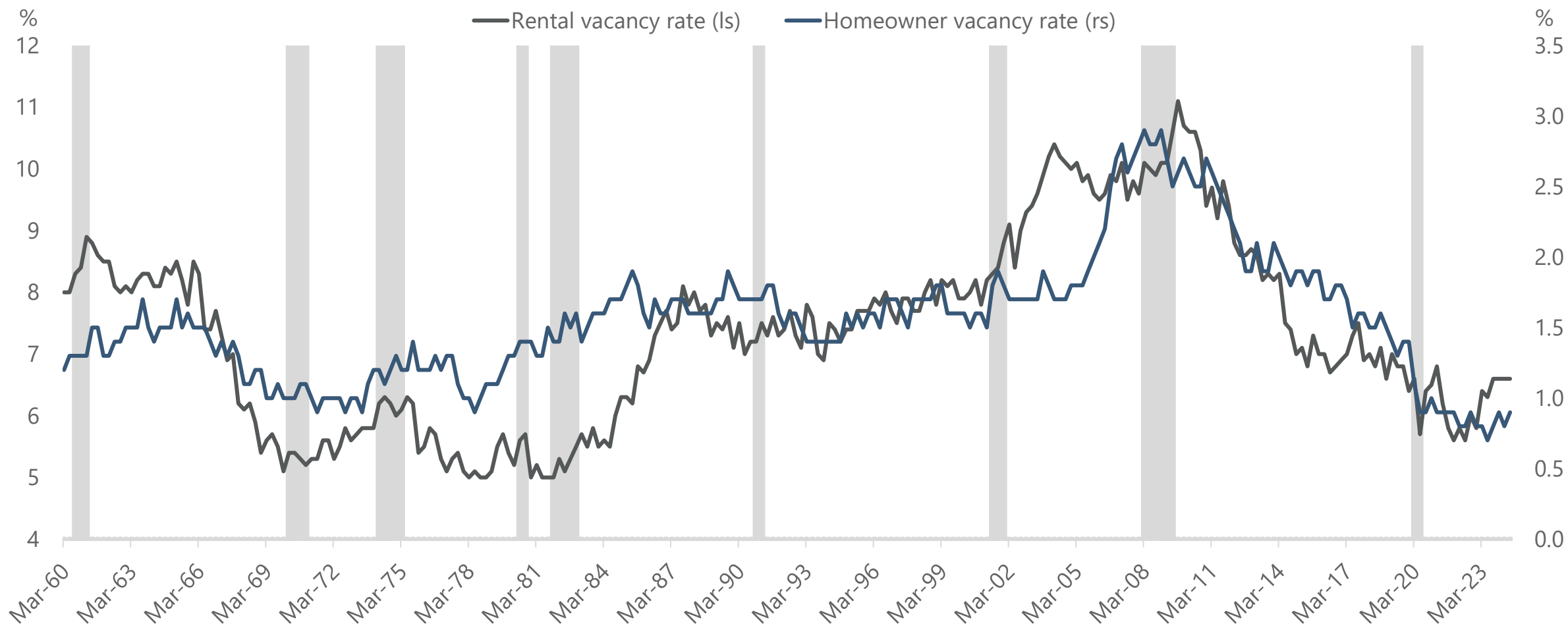
# Fewer bidding wars recently



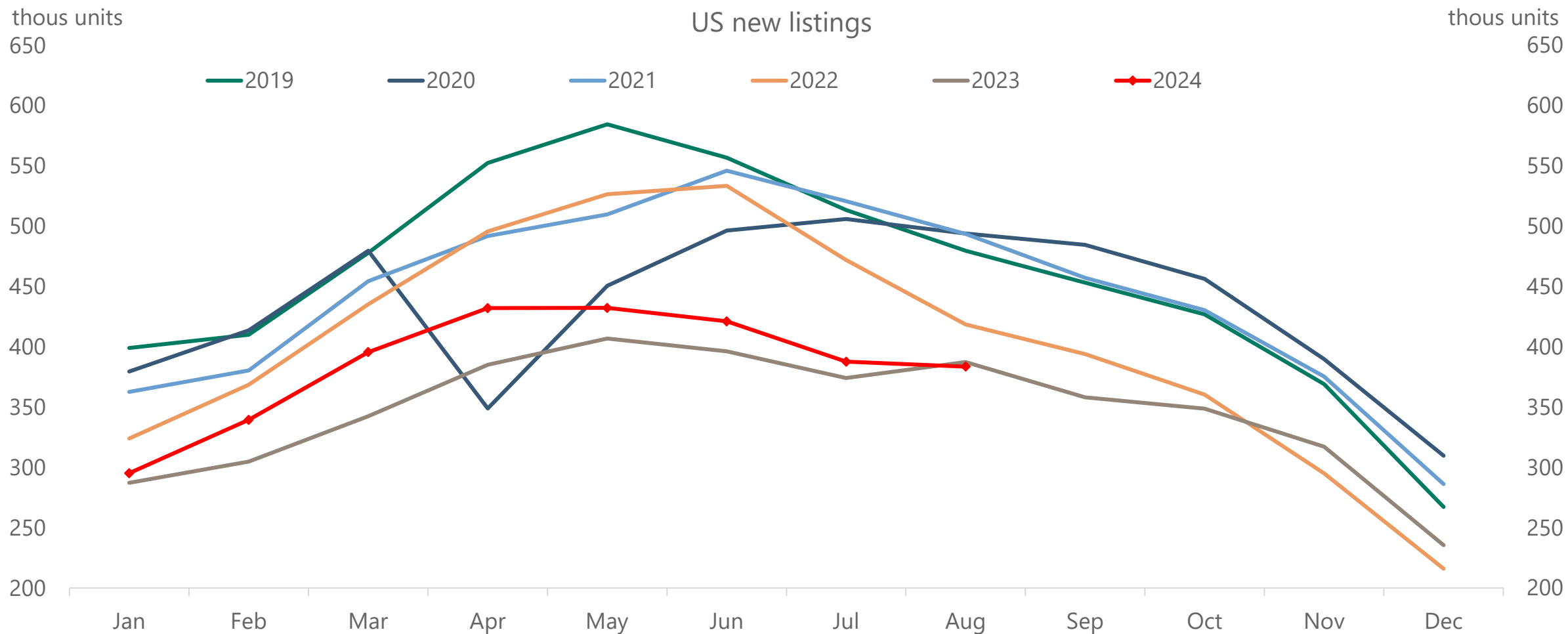


2) Housing Supply: Housing supply is low, construction coming down from record-high levels

# Homeowner and rental vacancy rates at very low levels



# Newly listed homes much lower than normal

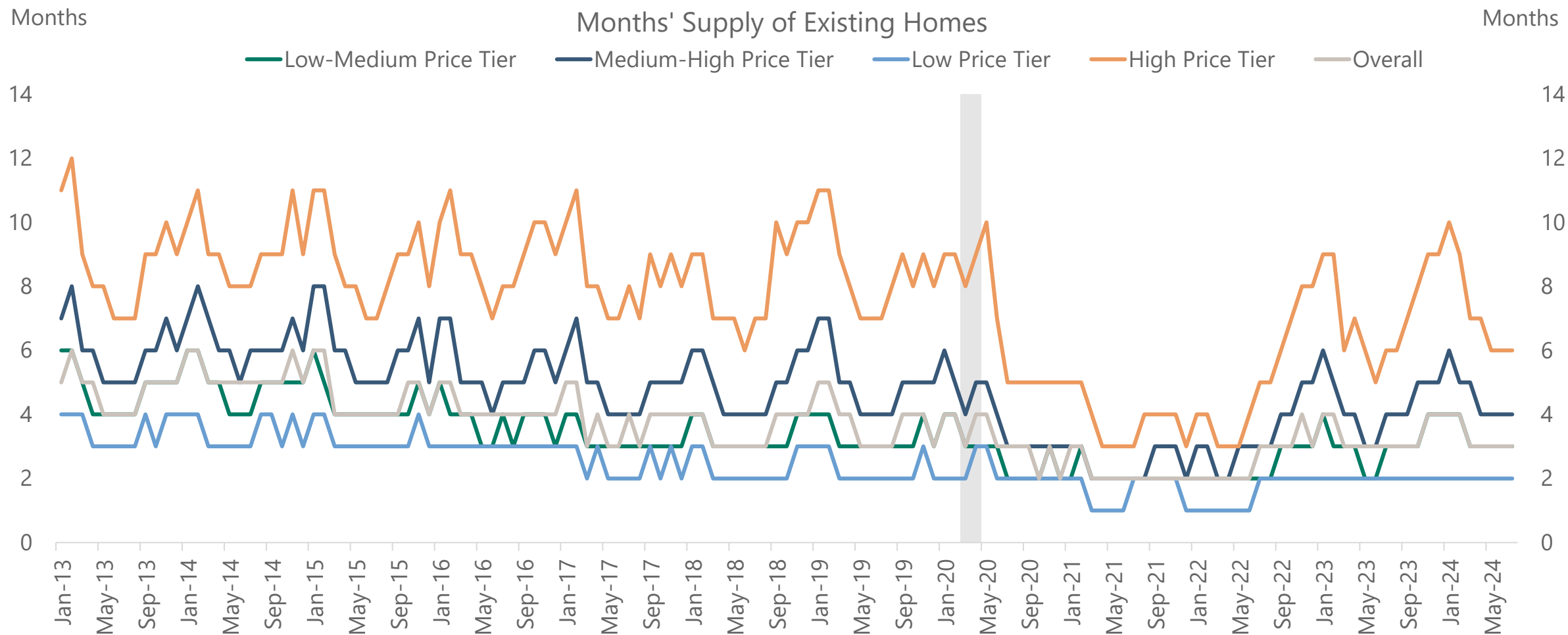


# Housing supply is low: Residential new listings remains low



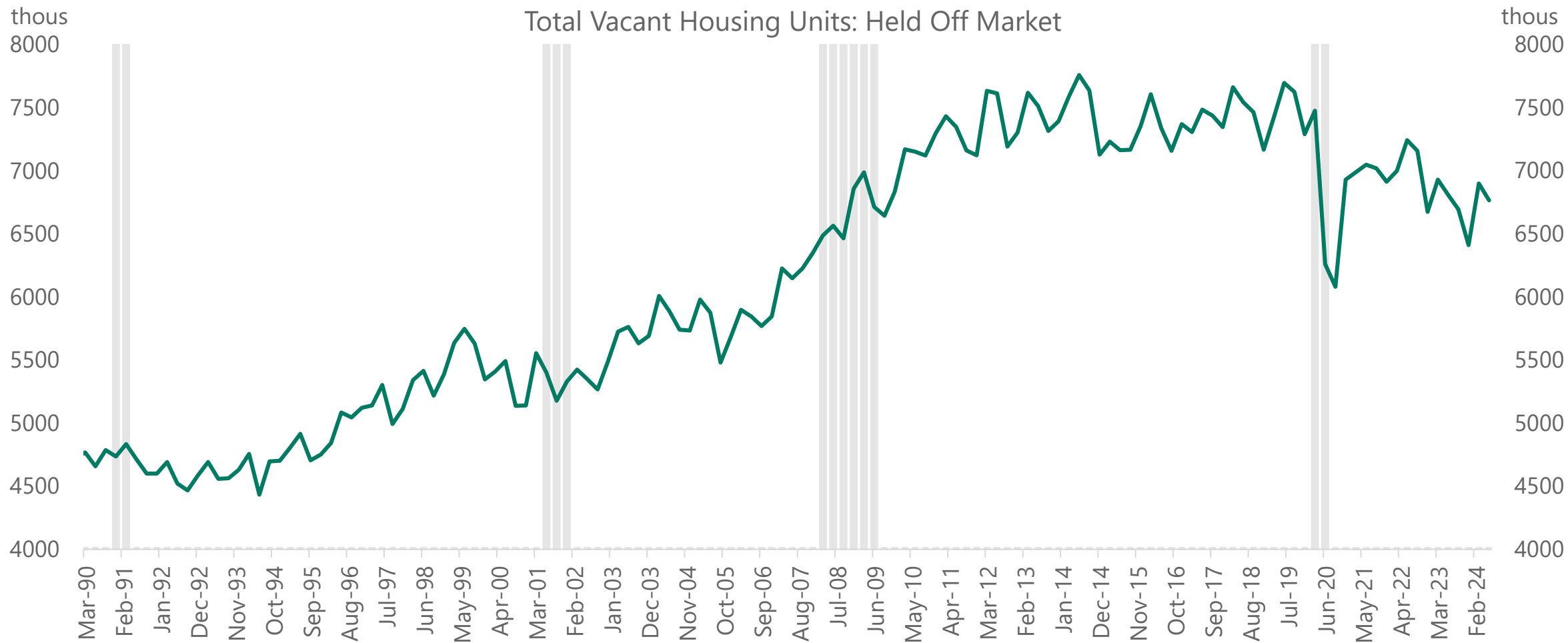
Source: Redfin, Haver Analytics, Apollo Chief Economist.

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



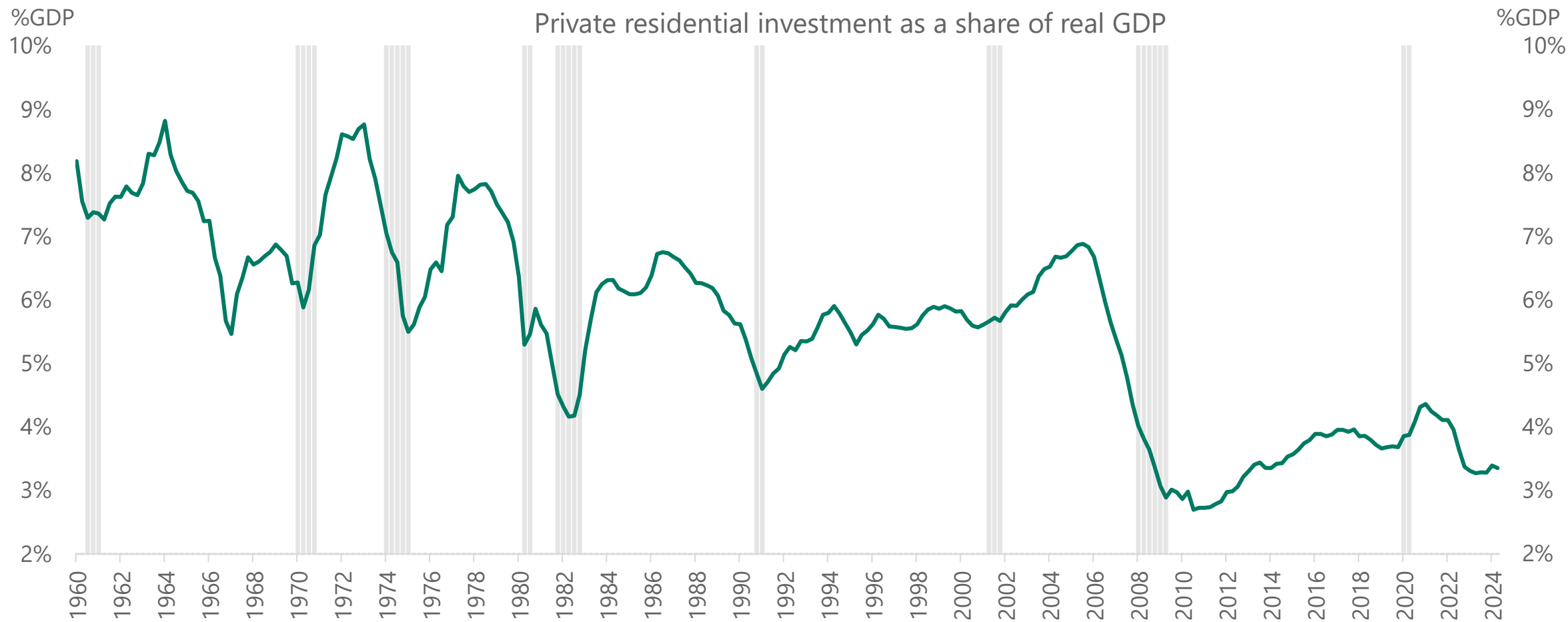
Source: American Enterprise Institute, Haver, Apollo Chief Economist

# Vacant housing units held off market



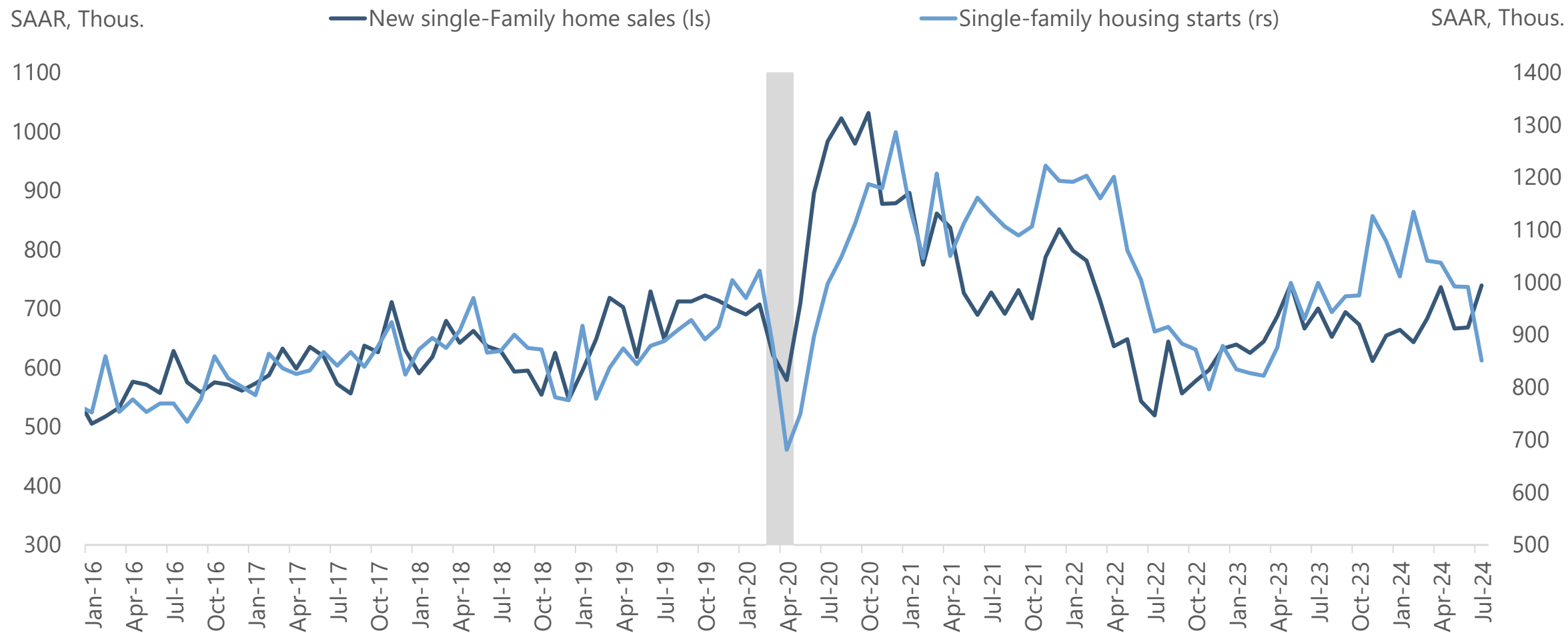
Source: Census Bureau, Haver Analytics, Apollo Chief Economist

# Residential investment as a share of real GDP is very low



Source: BEA, Haver Analytics, Apollo Chief Economist

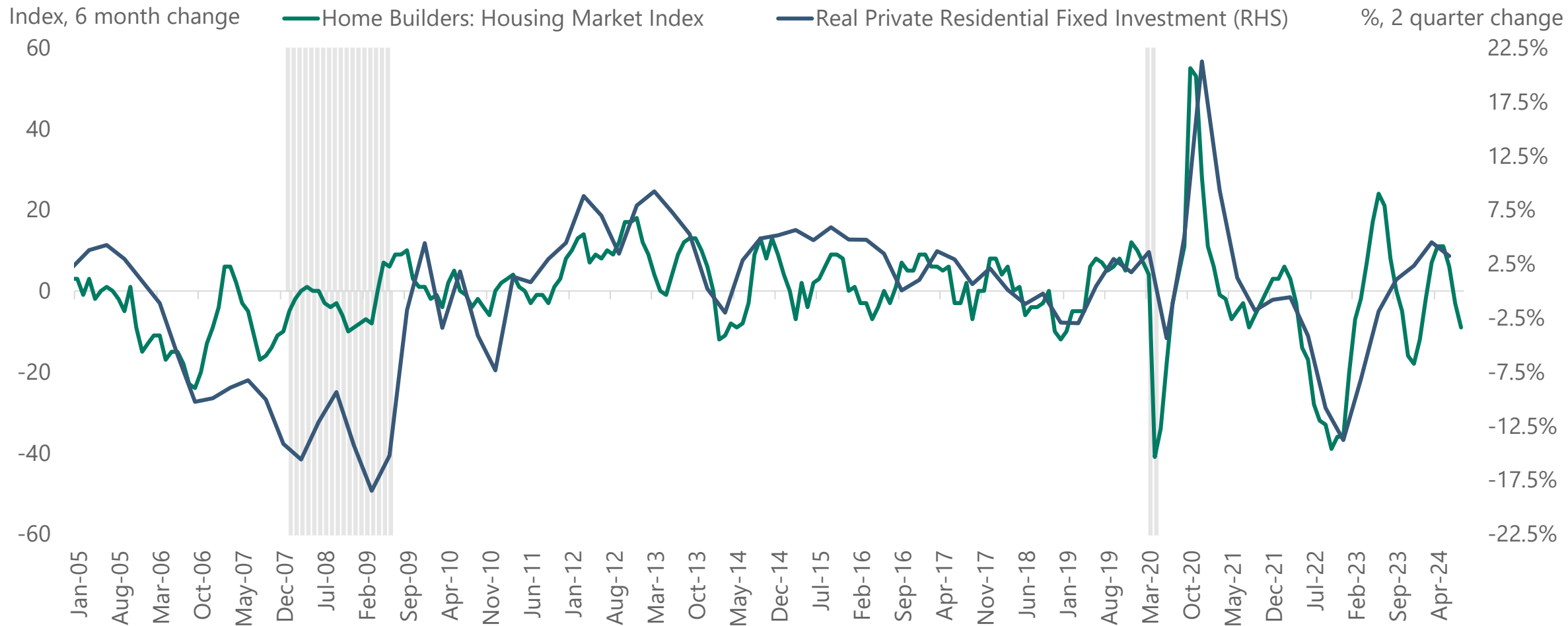
# Housing starts show a downward trend



Source: Census Bureau, Haver Analytics, Apollo Chief Economist

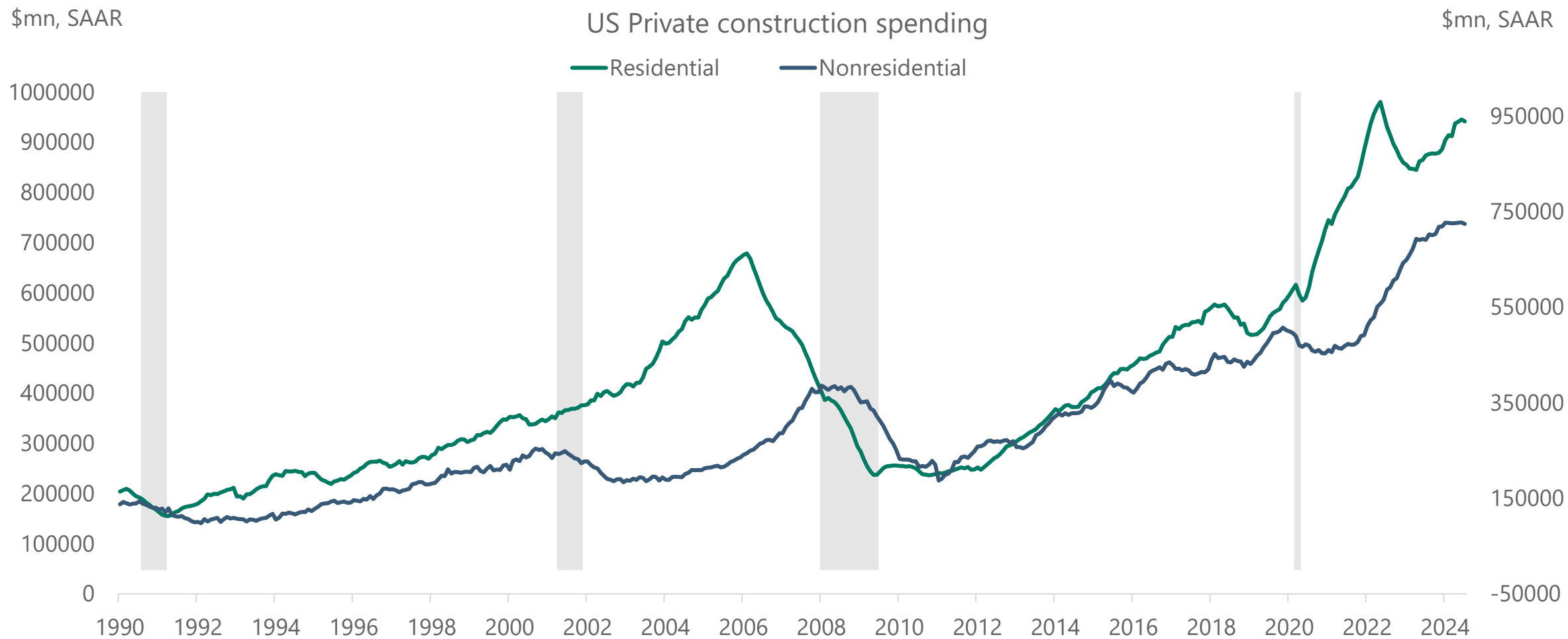


# Homebuilder confidence correlated with residential investment

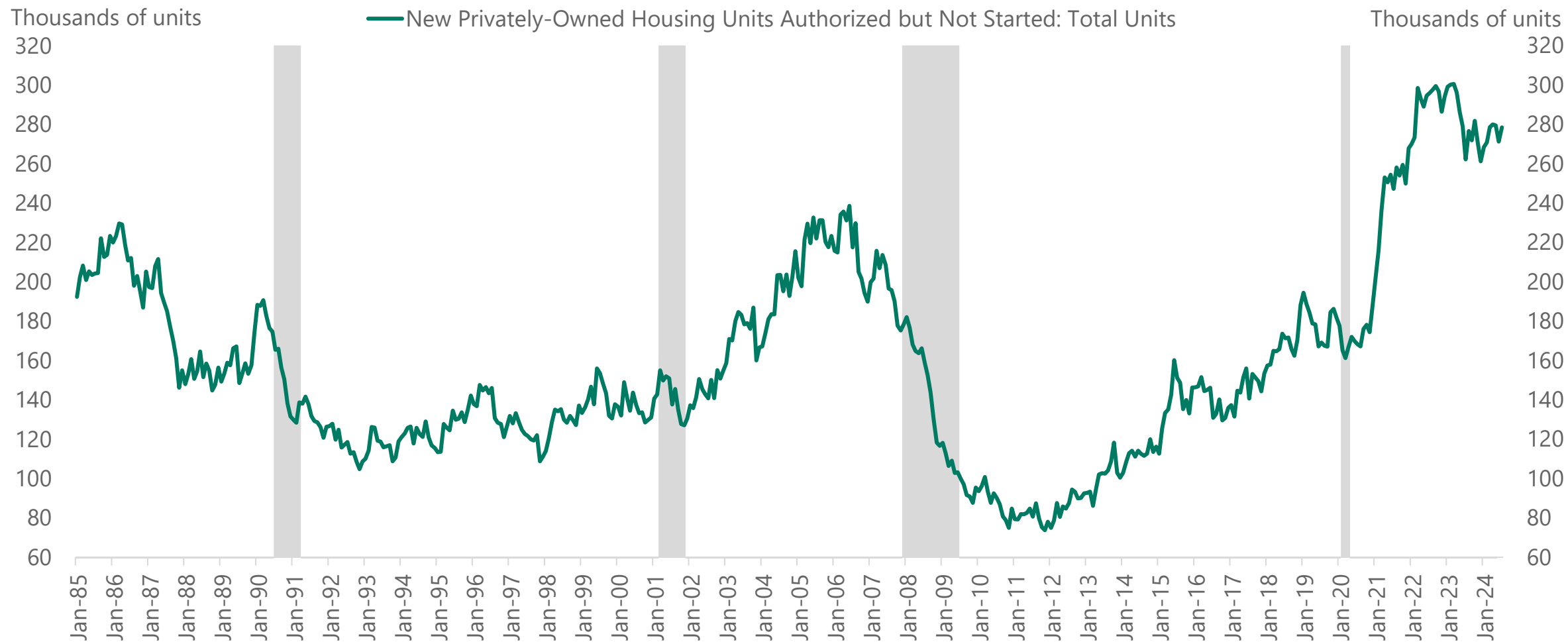


Source: BEA, NAHB, Haver Analytics, Apollo Chief Economist

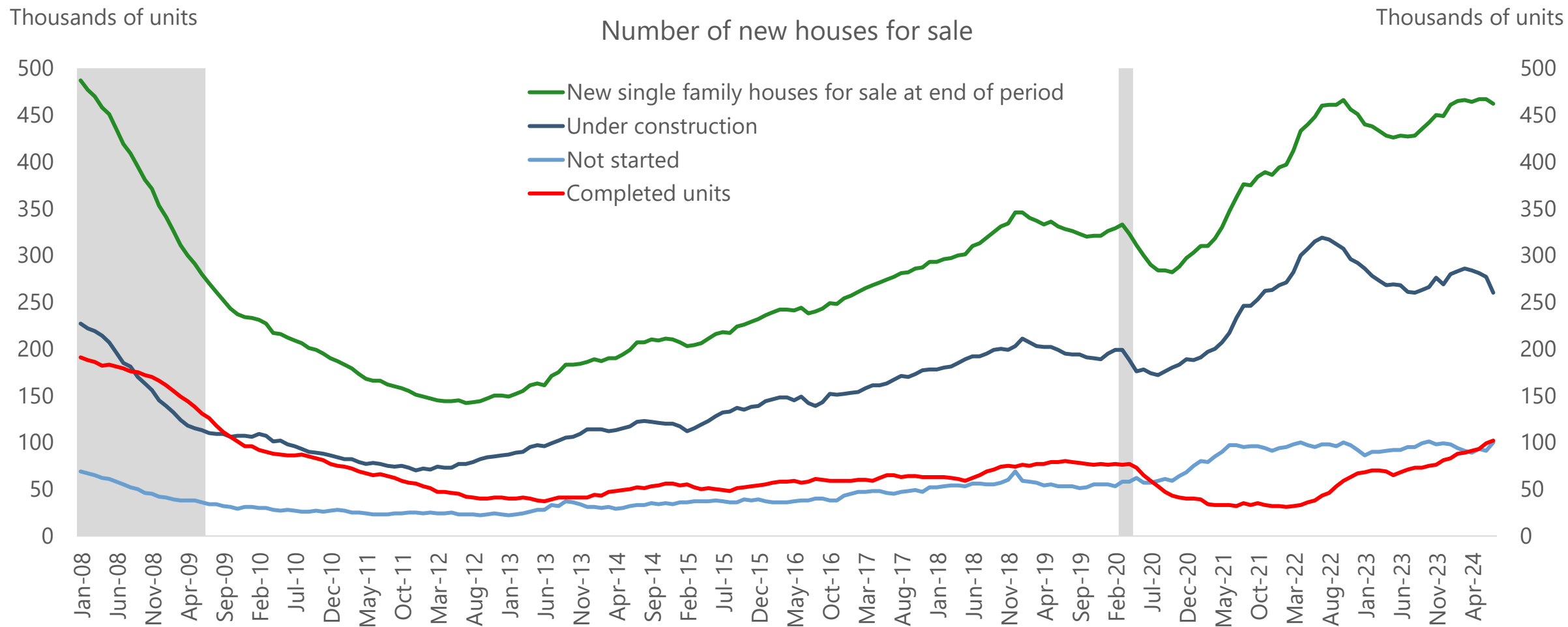
# Residential construction spending starting to rise again



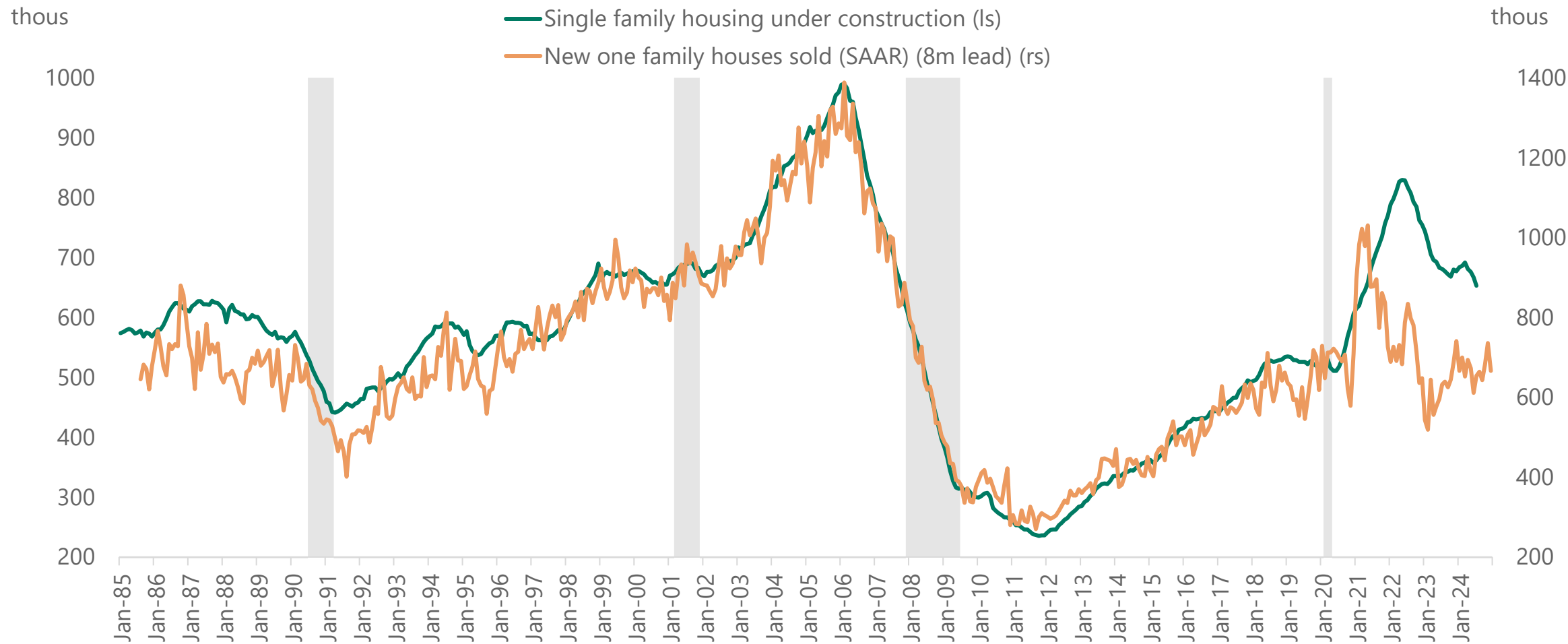
# New housing units authorized but not started



# Number of new houses for sale

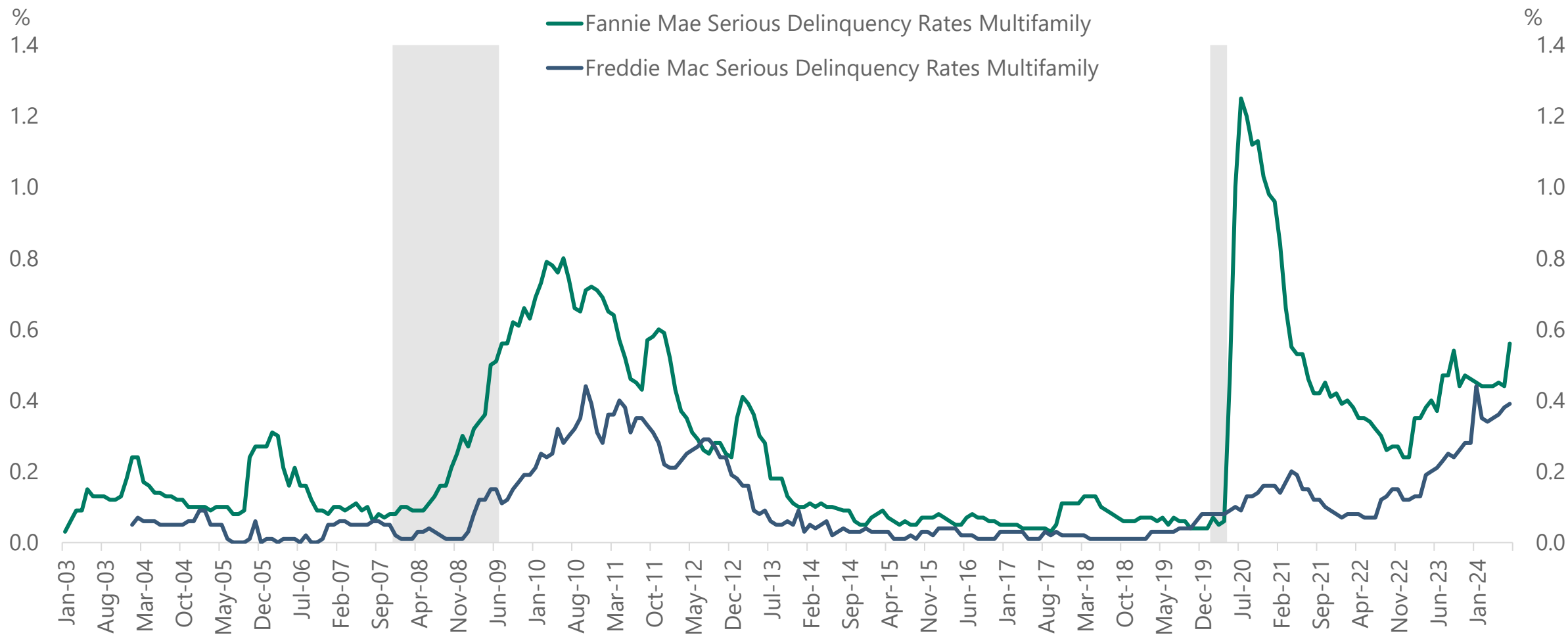


# Some disconnect between housing under construction and new homes sold

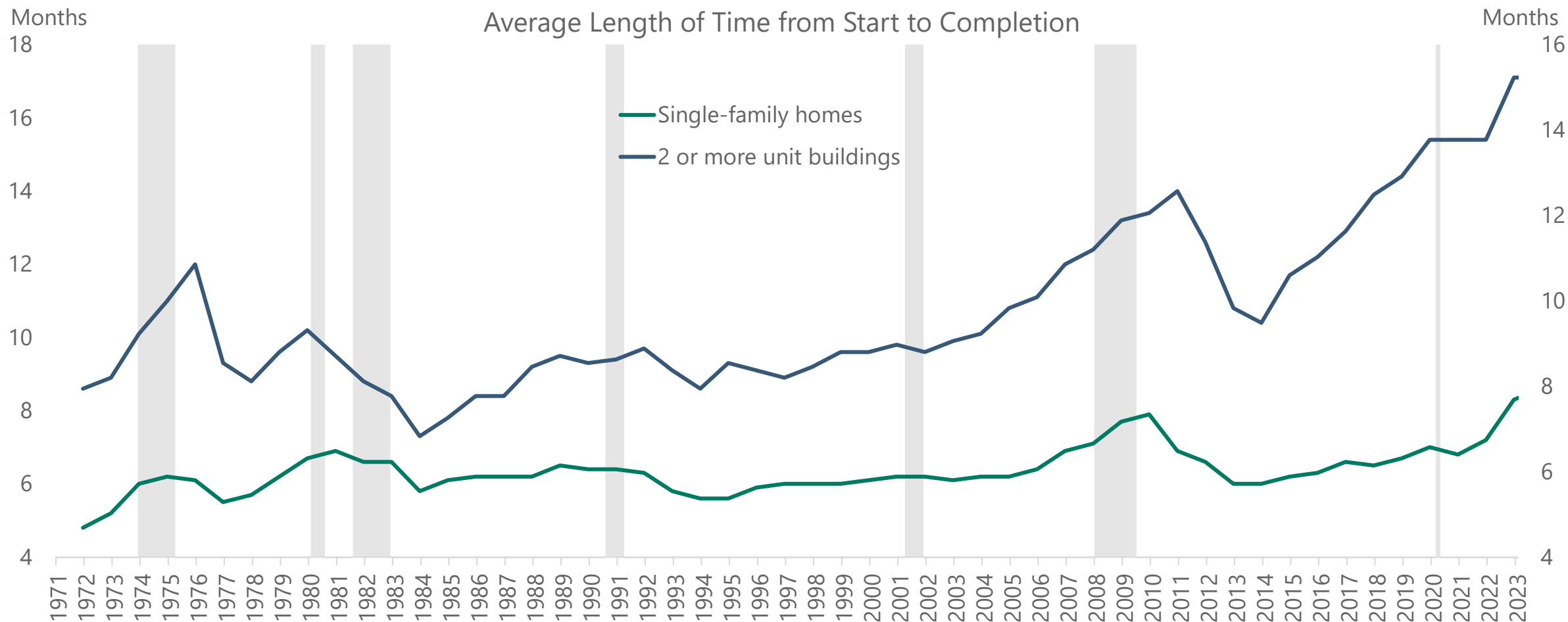


Source: Census Bureau, Bloomberg, Apollo Chief Economist.

# Multifamily delinquencies rising

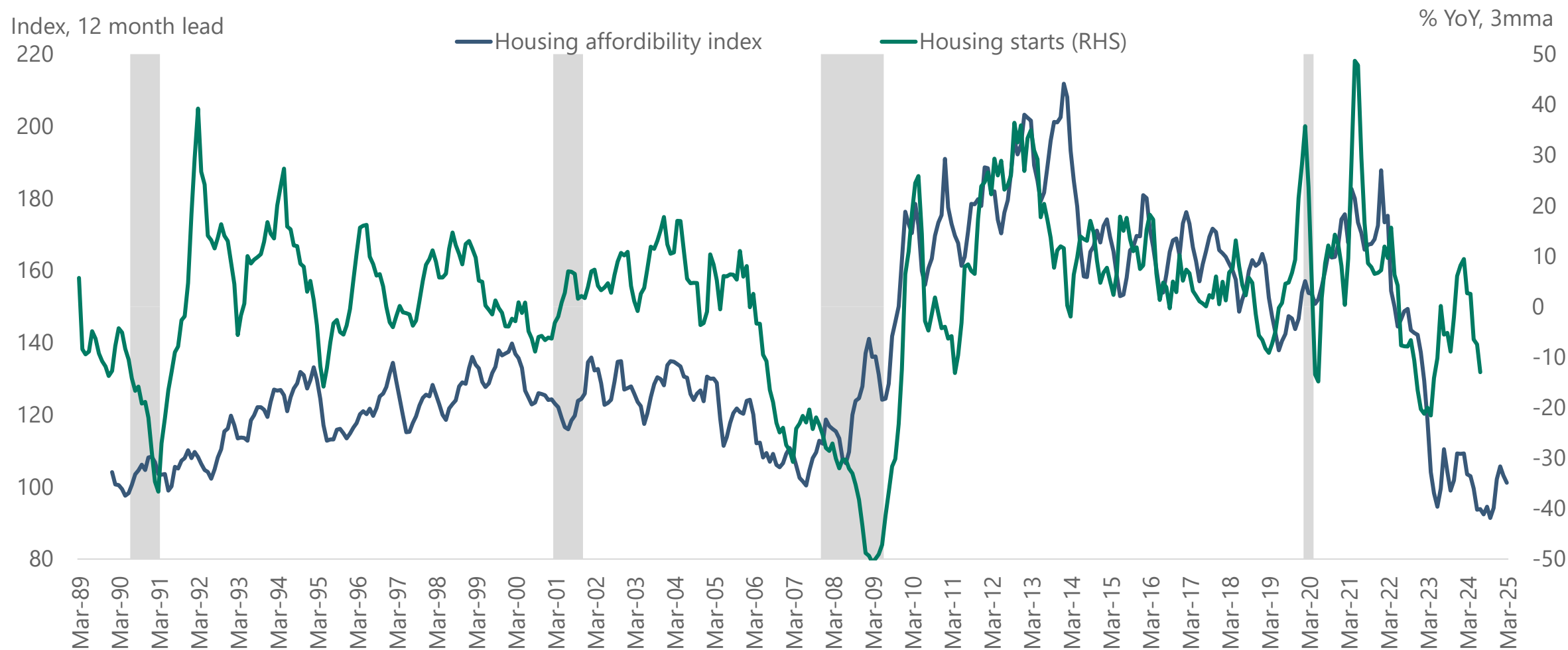


# It currently takes 8 months on average to build a single-family house



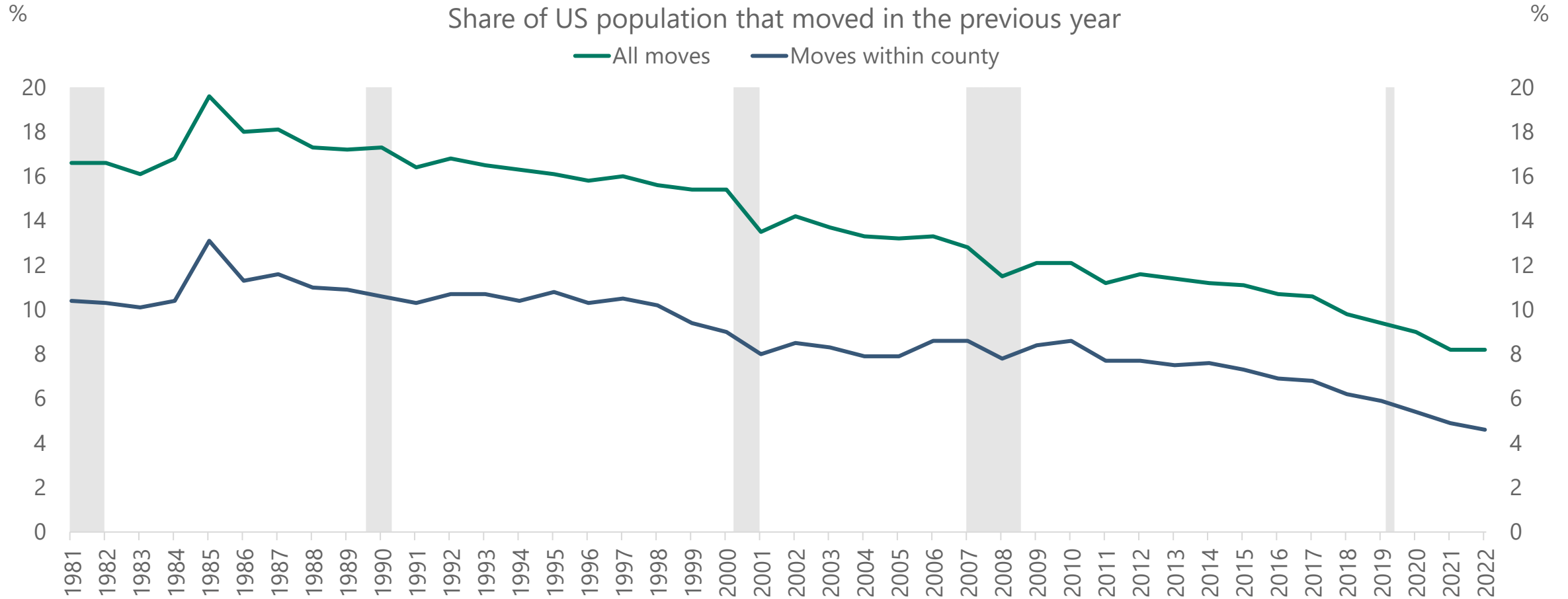
Source: Census, Haver Analytics, Apollo Chief Economist. Note: Single family homes are 1 unit buildings

# Weak affordability points to coming slowdown in housing starts

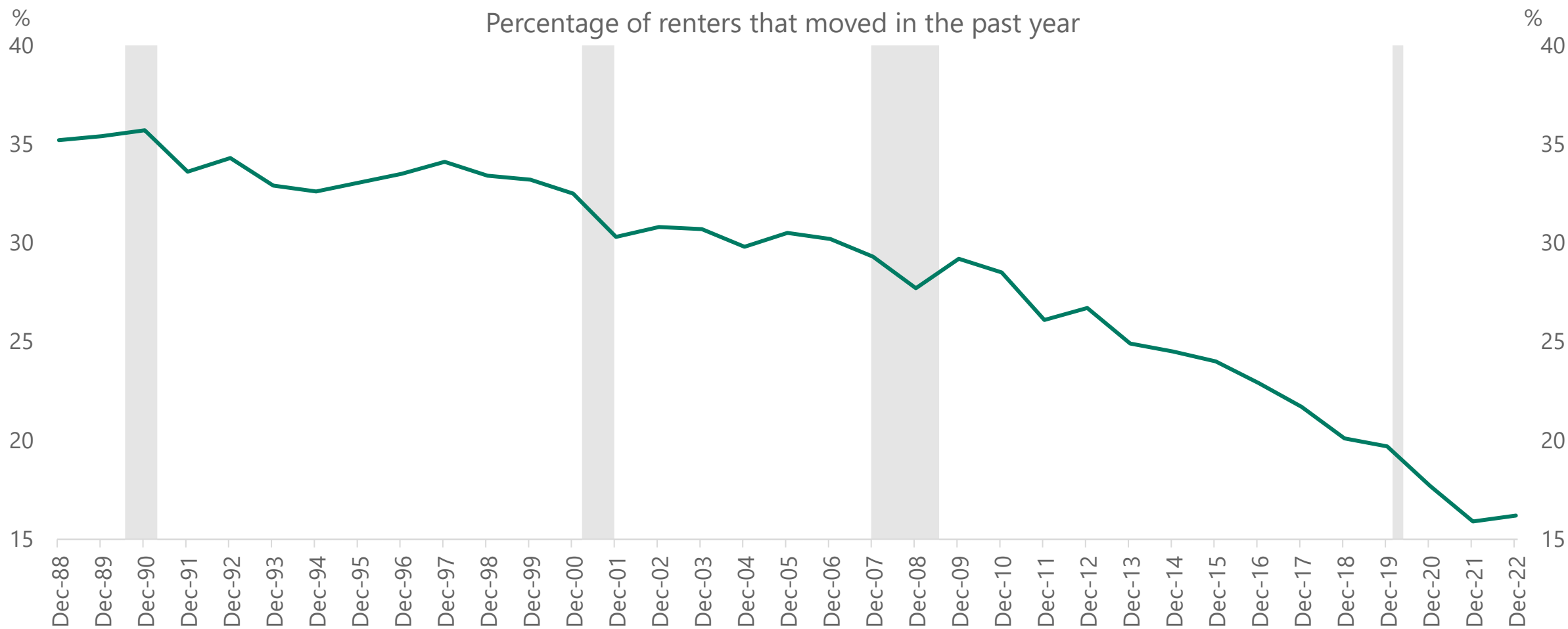




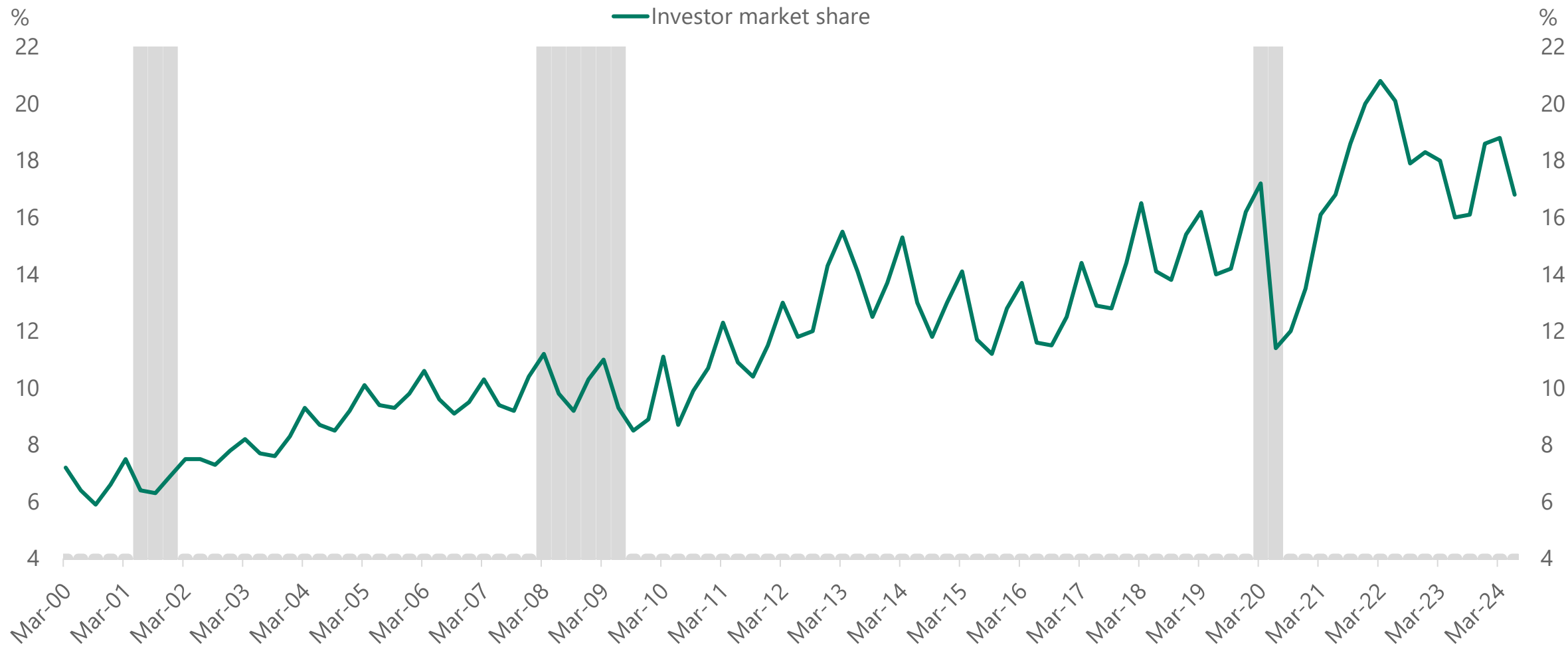
# Structural decline in the share of the US population moving to a new address



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



# The investor share of home purchases is rising

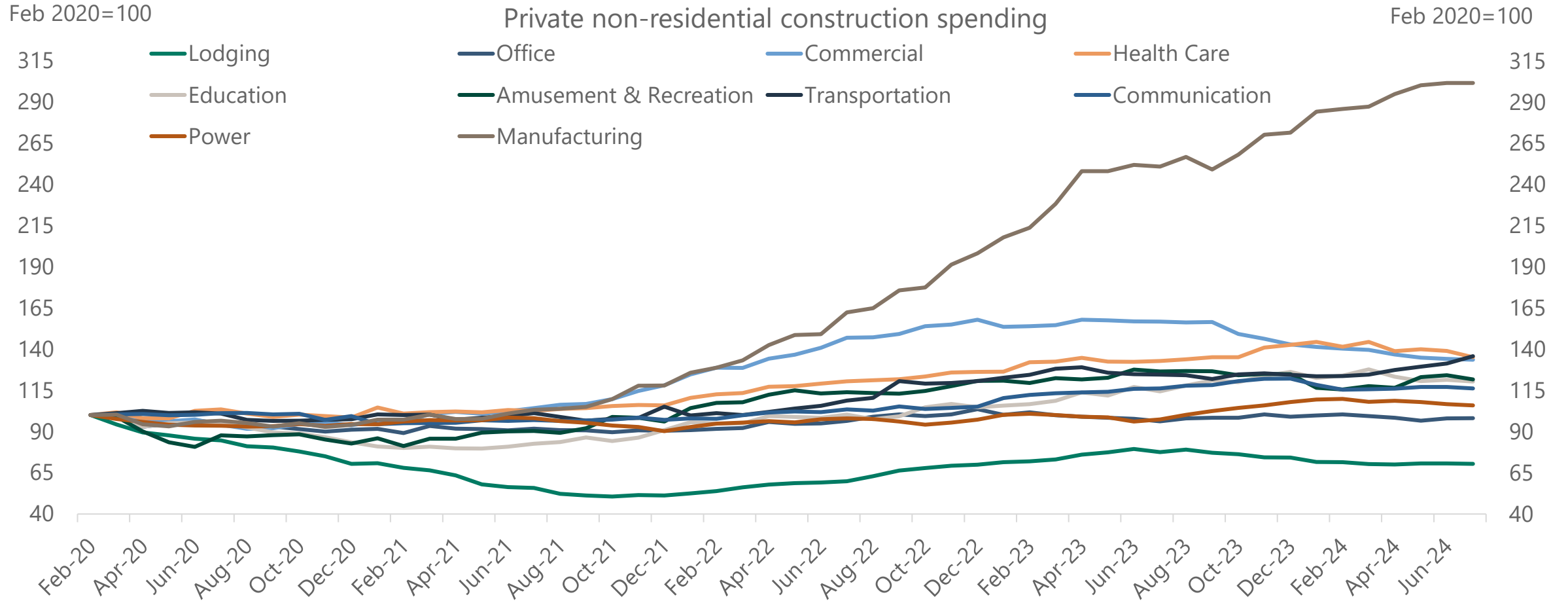


Source: Redfin, Apollo Chief Economist. Definition of Investor market share: the percentage of total home sales in which an investor was the buyer.

# Steady growth in employment in residential construction

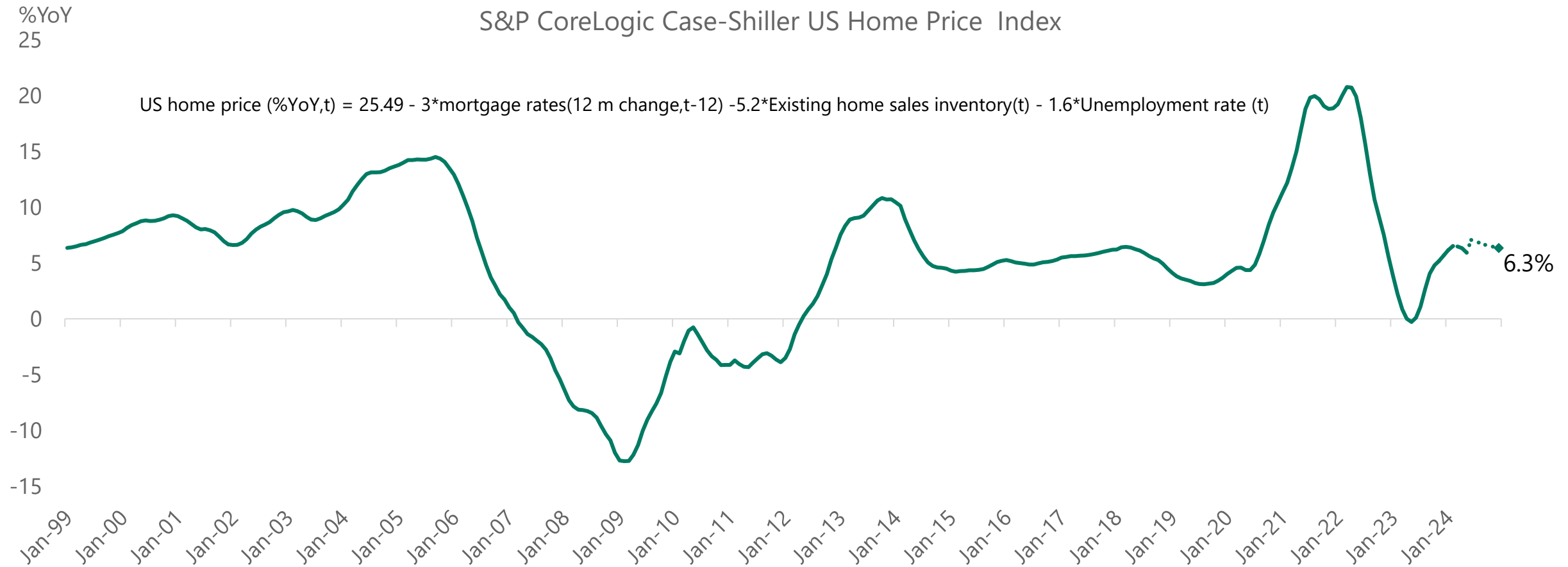


# The biggest increase in non-residential construction has been in manufacturing

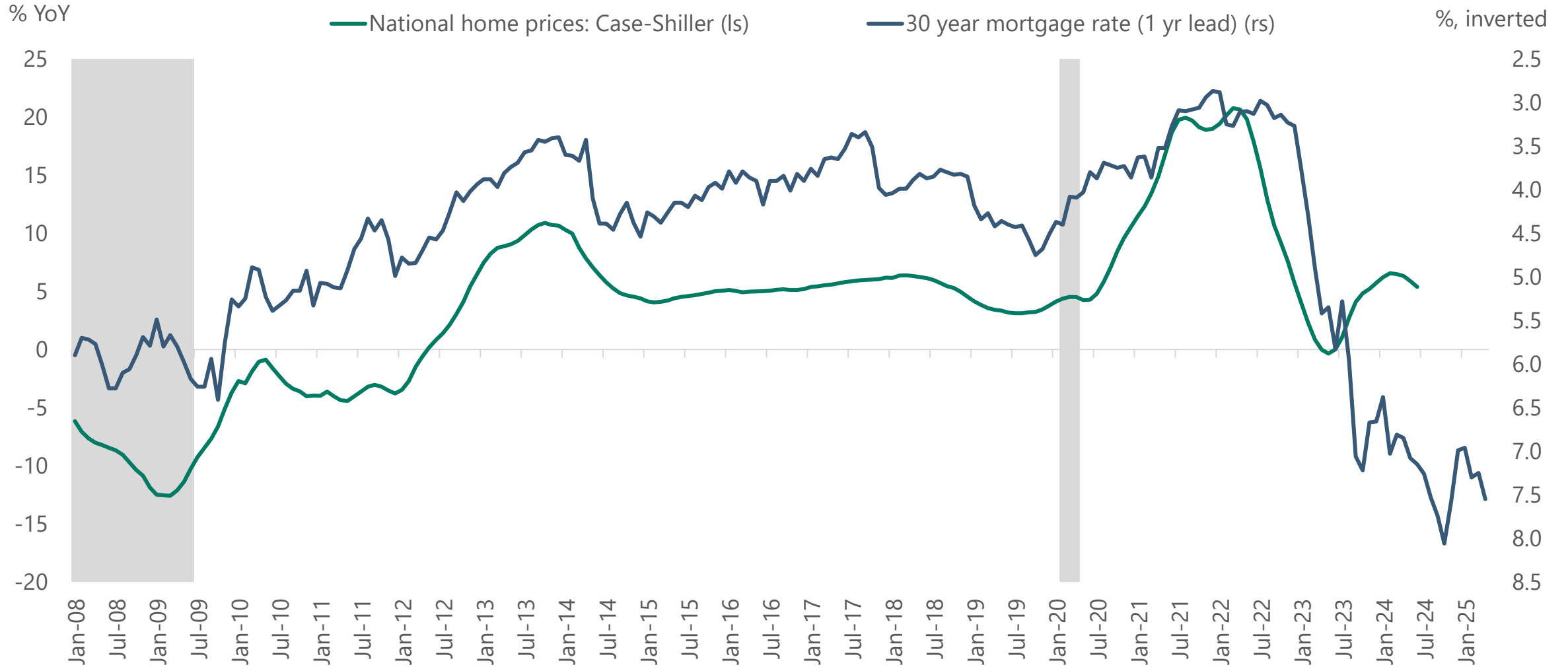


3) House Prices: Home price inflation not yet impacted by higher mortgage rates

# US house price model: Declining mortgage rates pushing home prices higher. Low inventory pushing home prices higher.

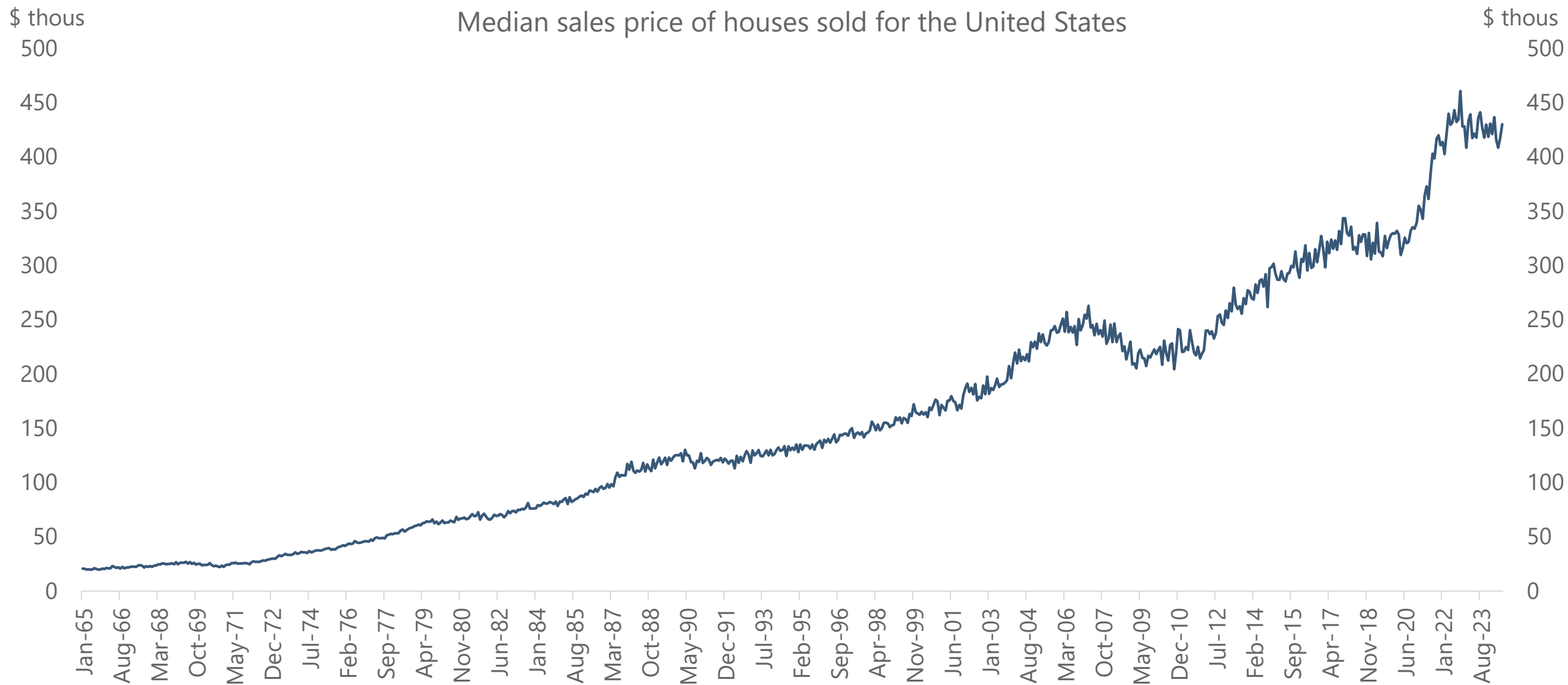


# Disconnect between mortgage rates and home prices because of low housing supply

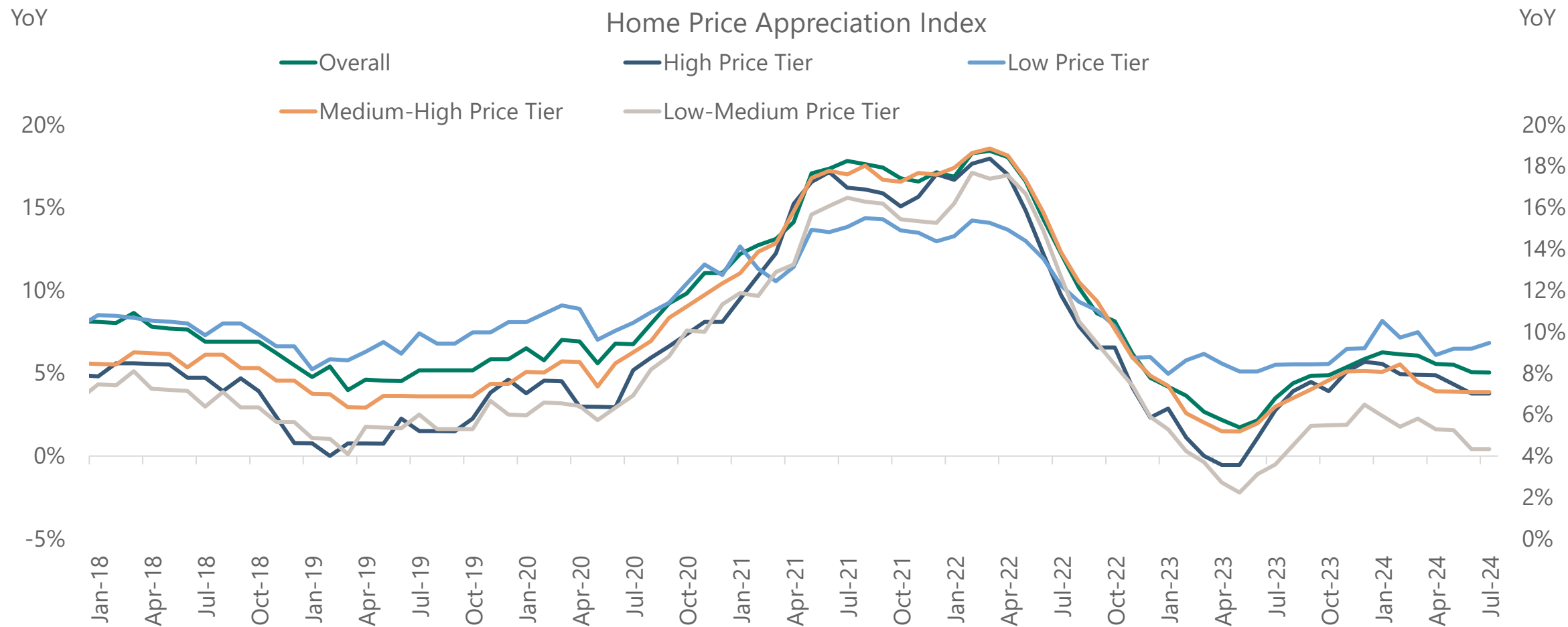




# Median home sales price now \$430K

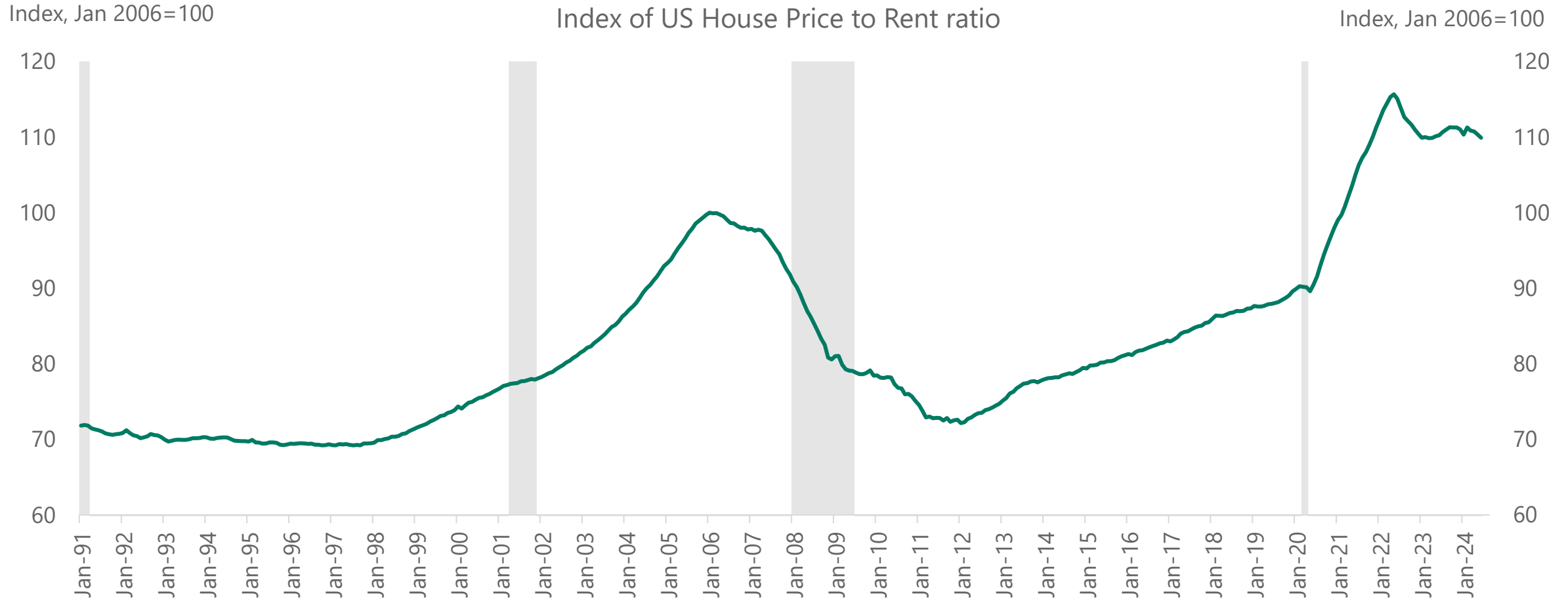


# House price inflation rising for low price tiers



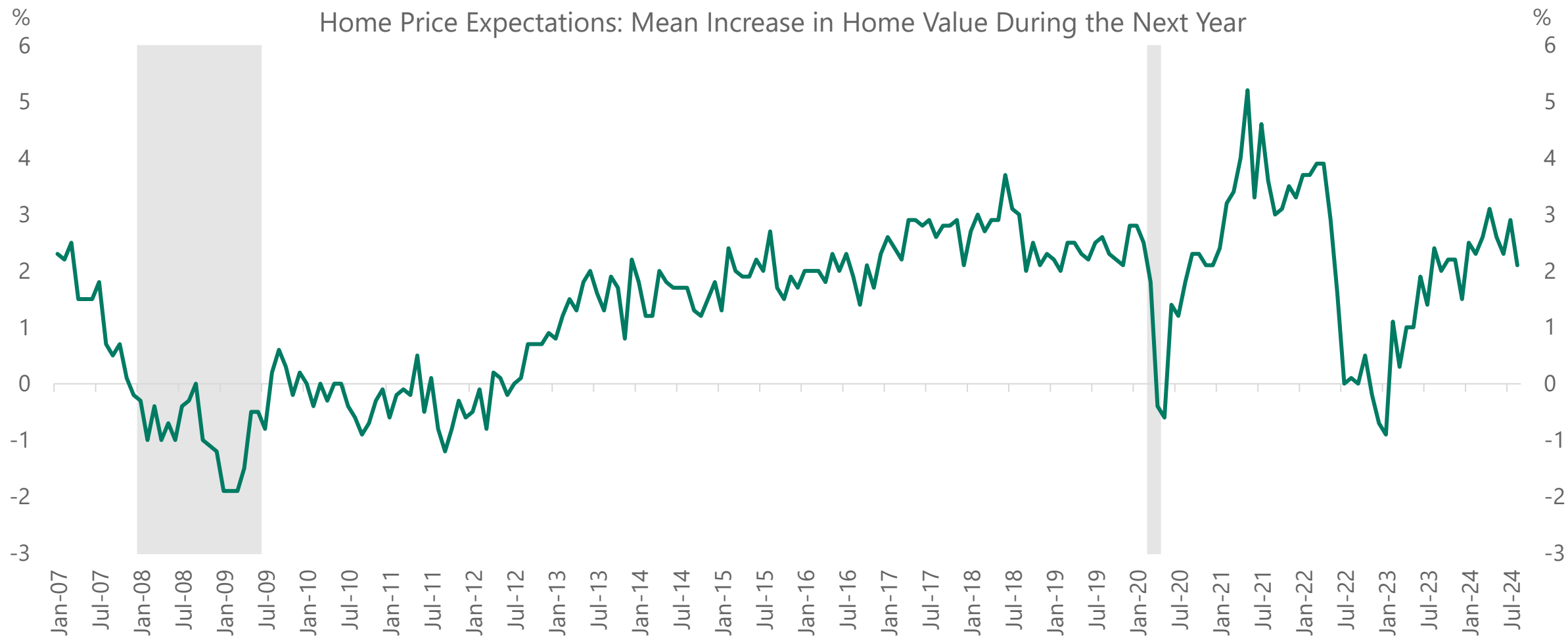
Source: American Enterprise Institute, Haver, Apollo Chief Economist

# Home price to rent ratio significantly above 2006 levels

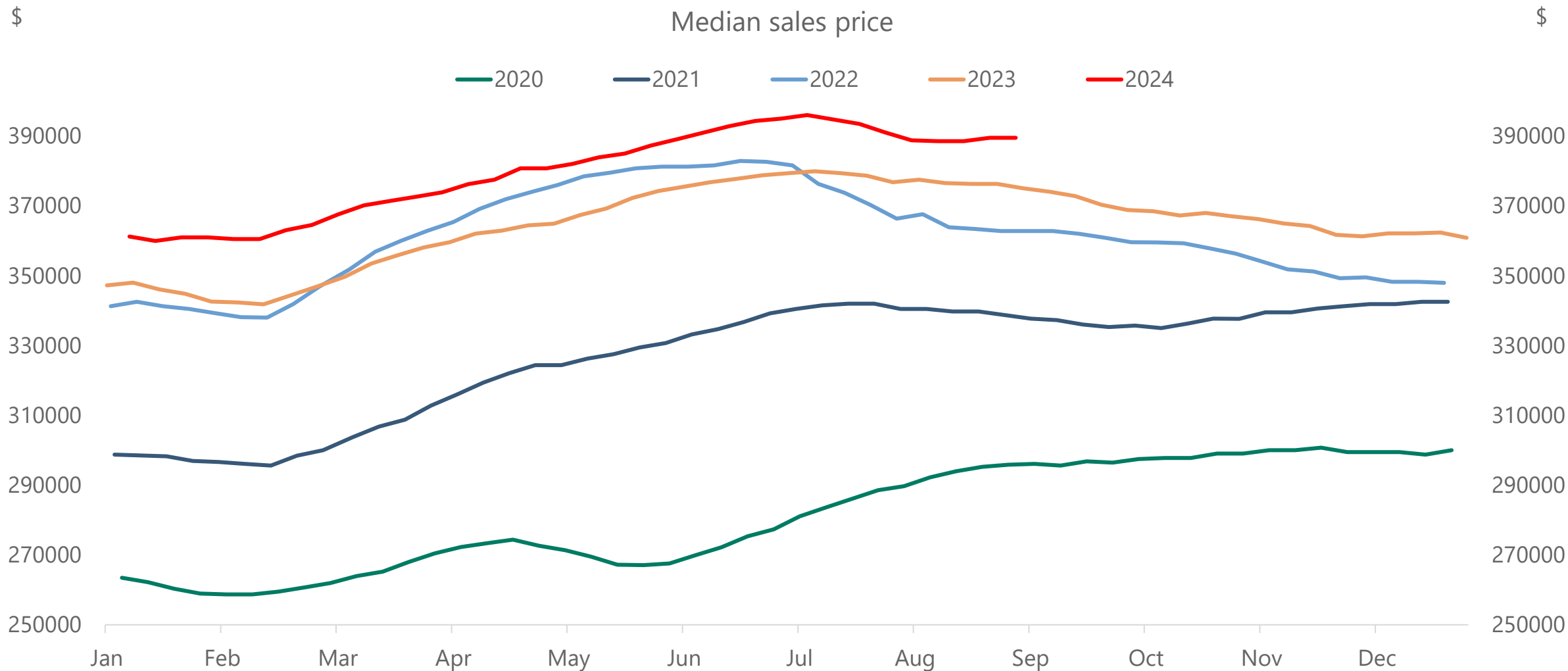


Source: FHFA, BLS, Apollo Chief Economist. Note: the series is indexed ratio of FHFA monthly purchase only house price index divided by the OER component of the CPI.

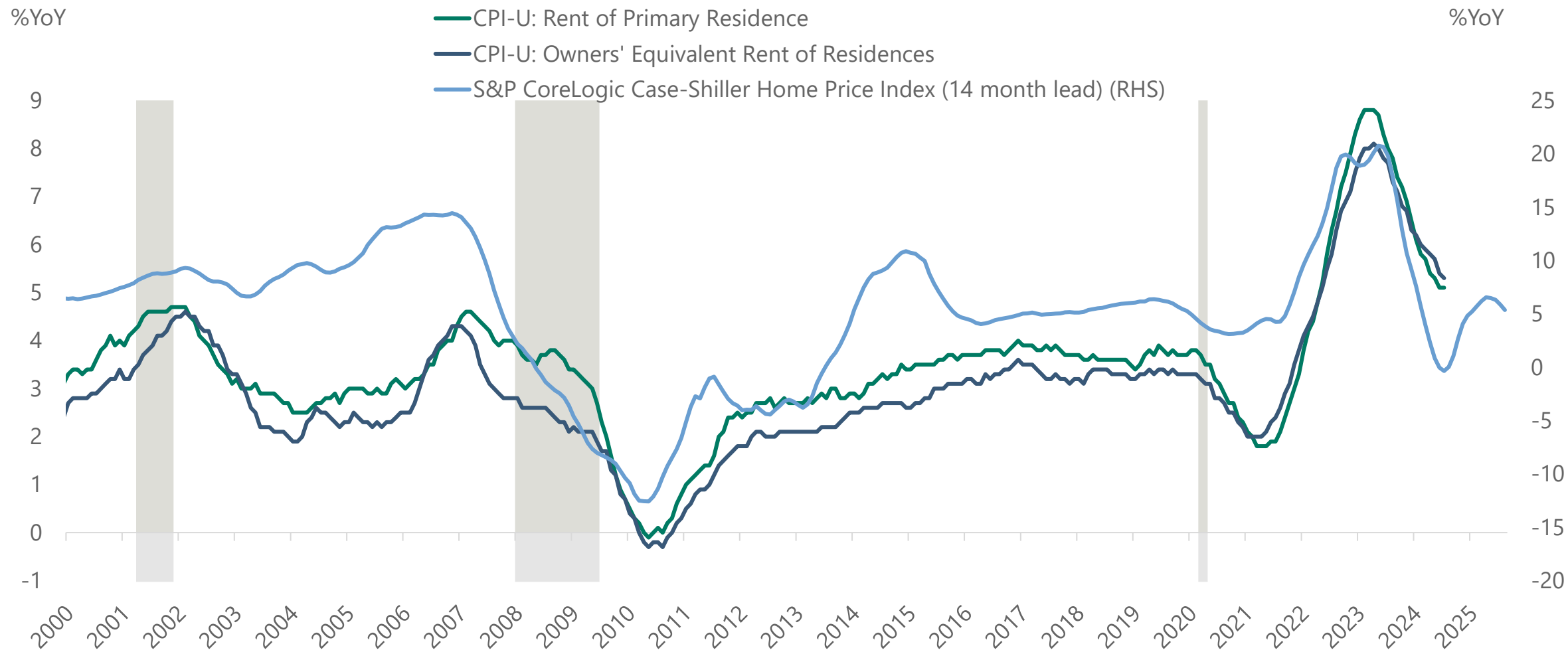
# Consumers' expectations of home price inflation



# Median sales price well above last year's levels

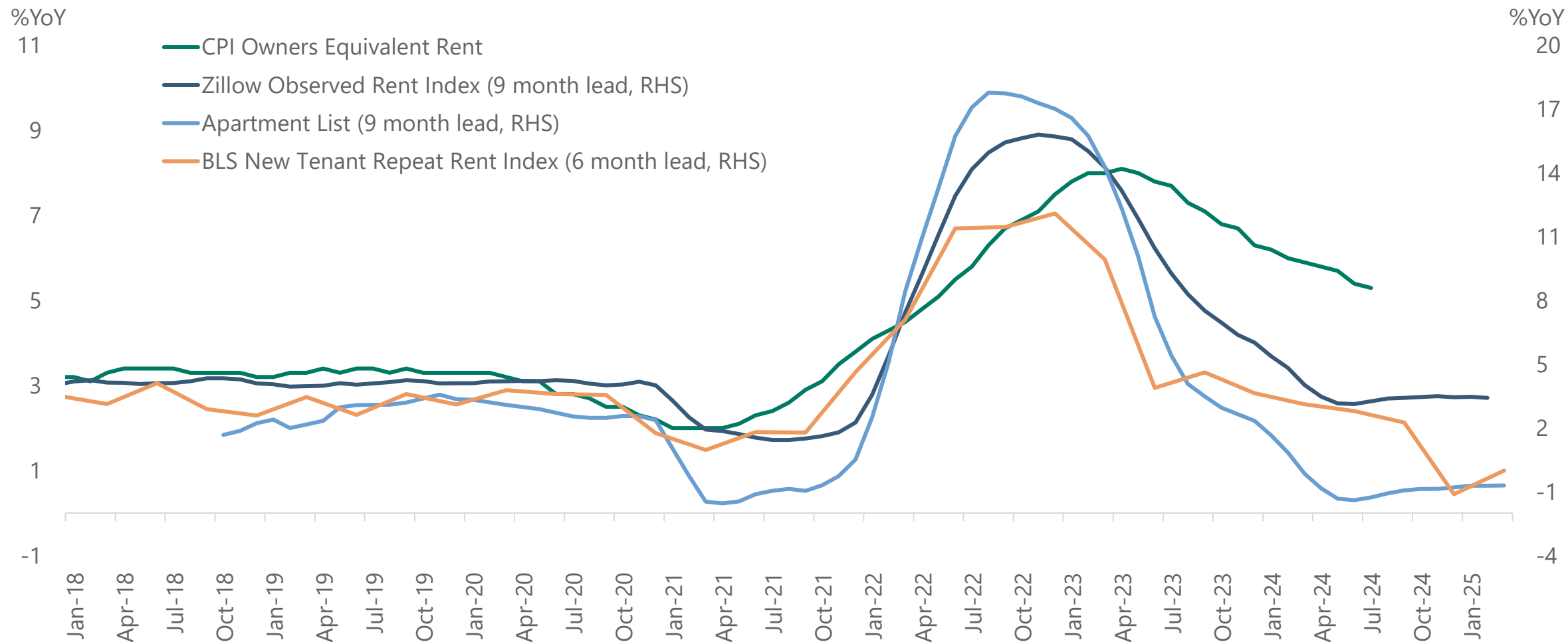


# Rebound coming in housing inflation

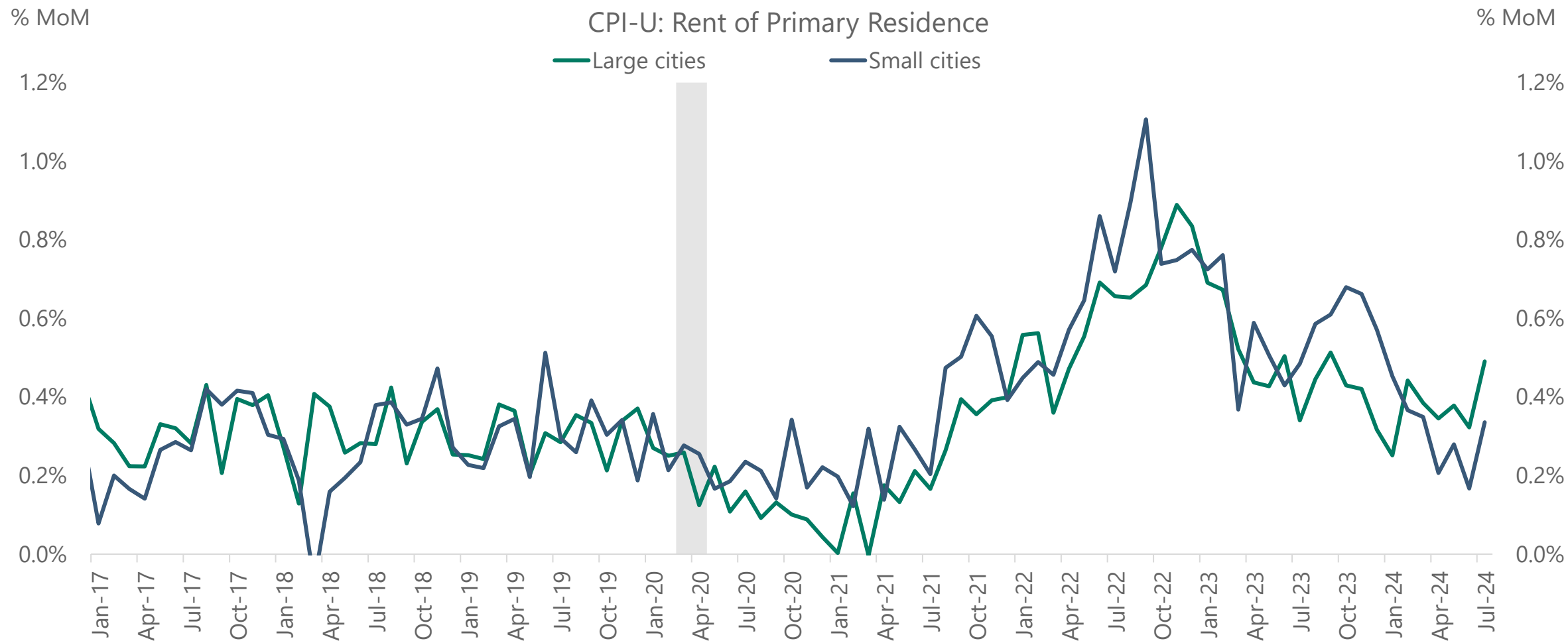


Source: Haver Analytics, BLS, S&P, Apollo Chief Economist

# OER housing inflation could begin to move sideways

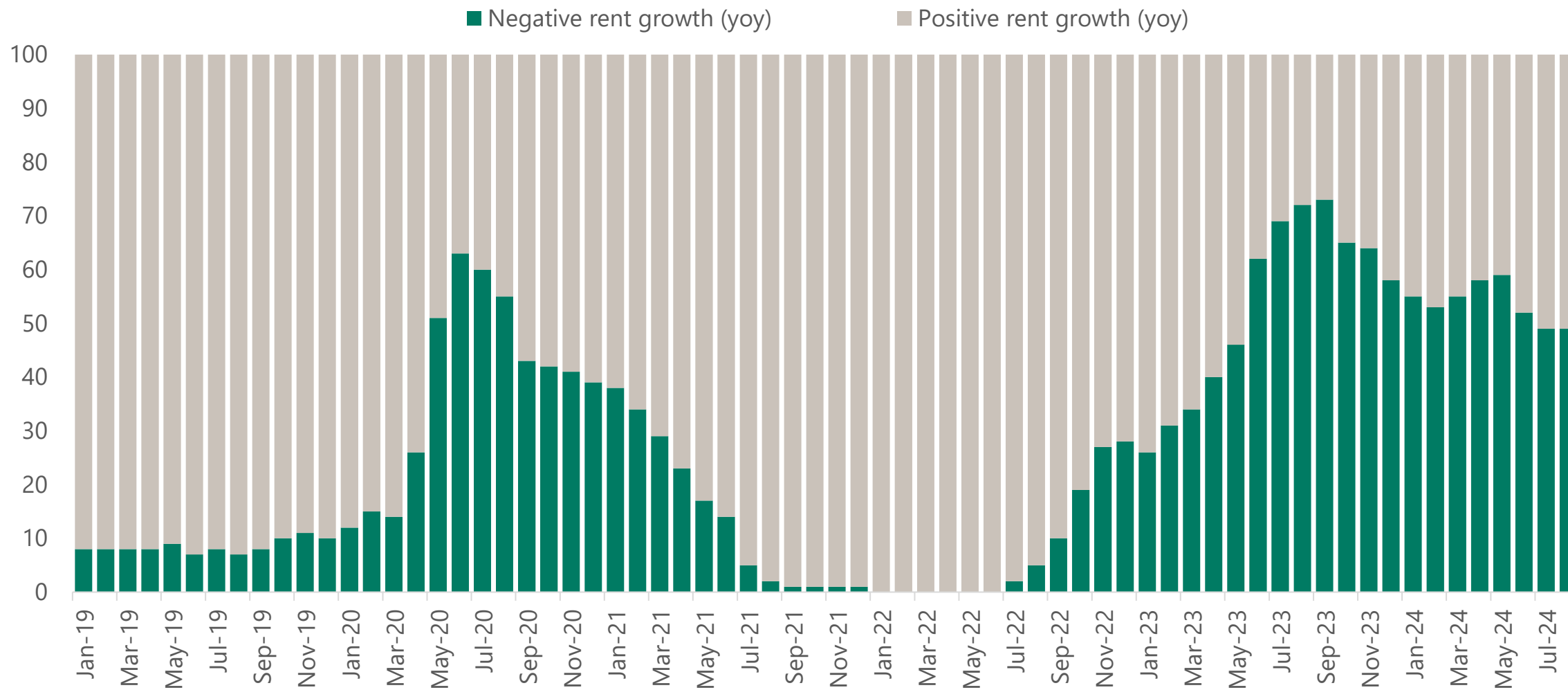


# Rent inflation trending higher in both small cities and large cities

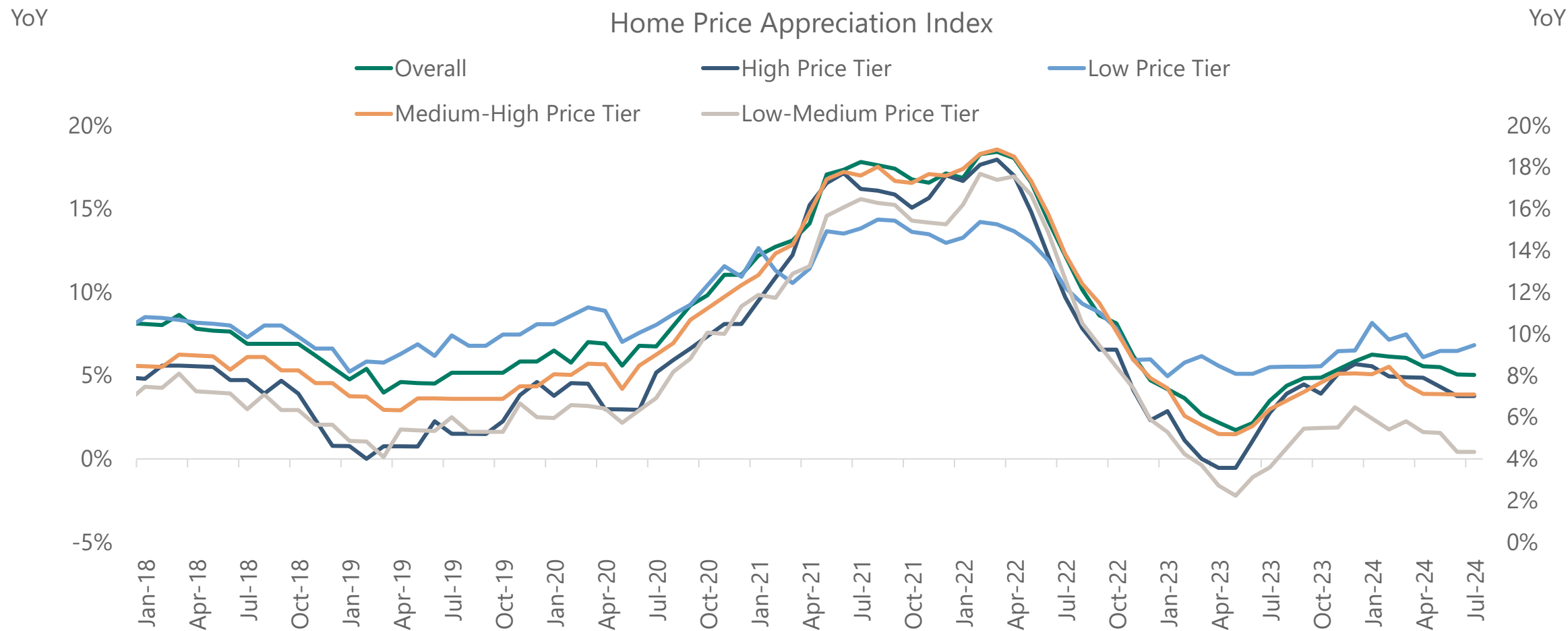




# 100 largest US cities: Share of cities with positive rent high

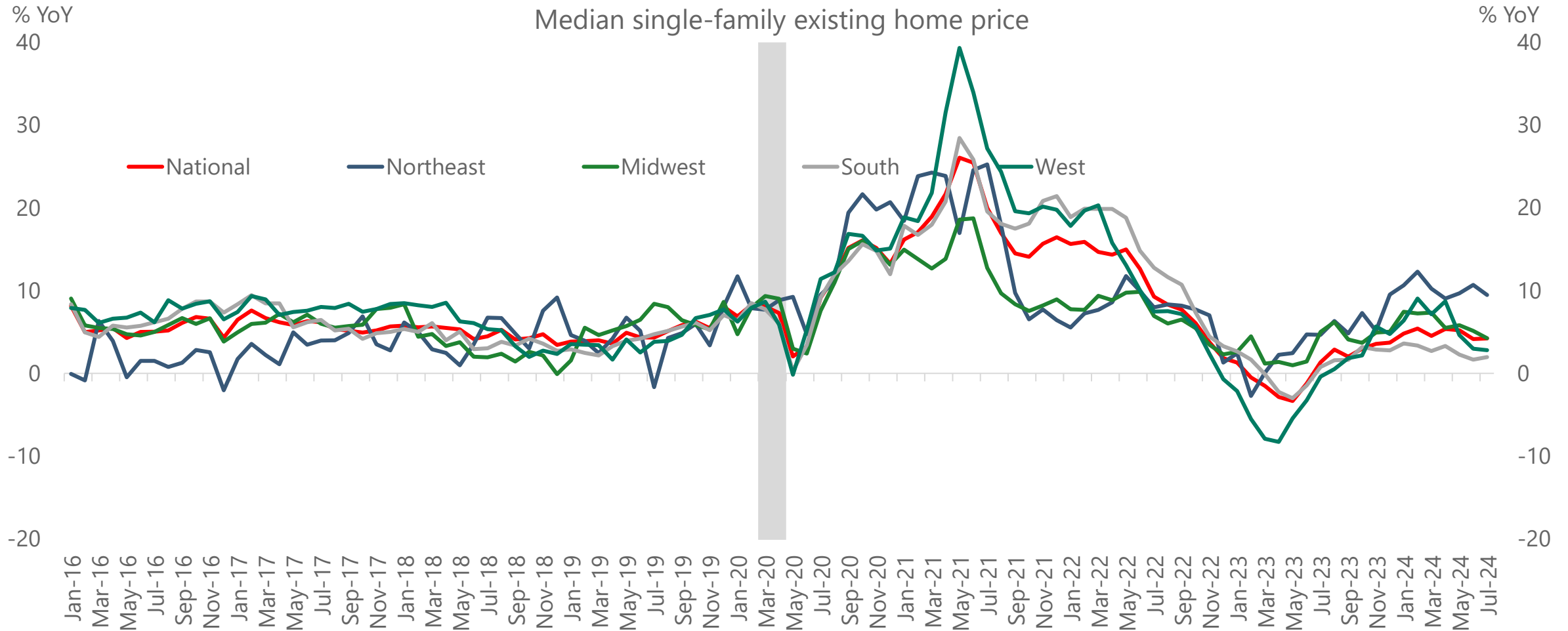


# Home price inflation solid because of low inventory of homes for sale

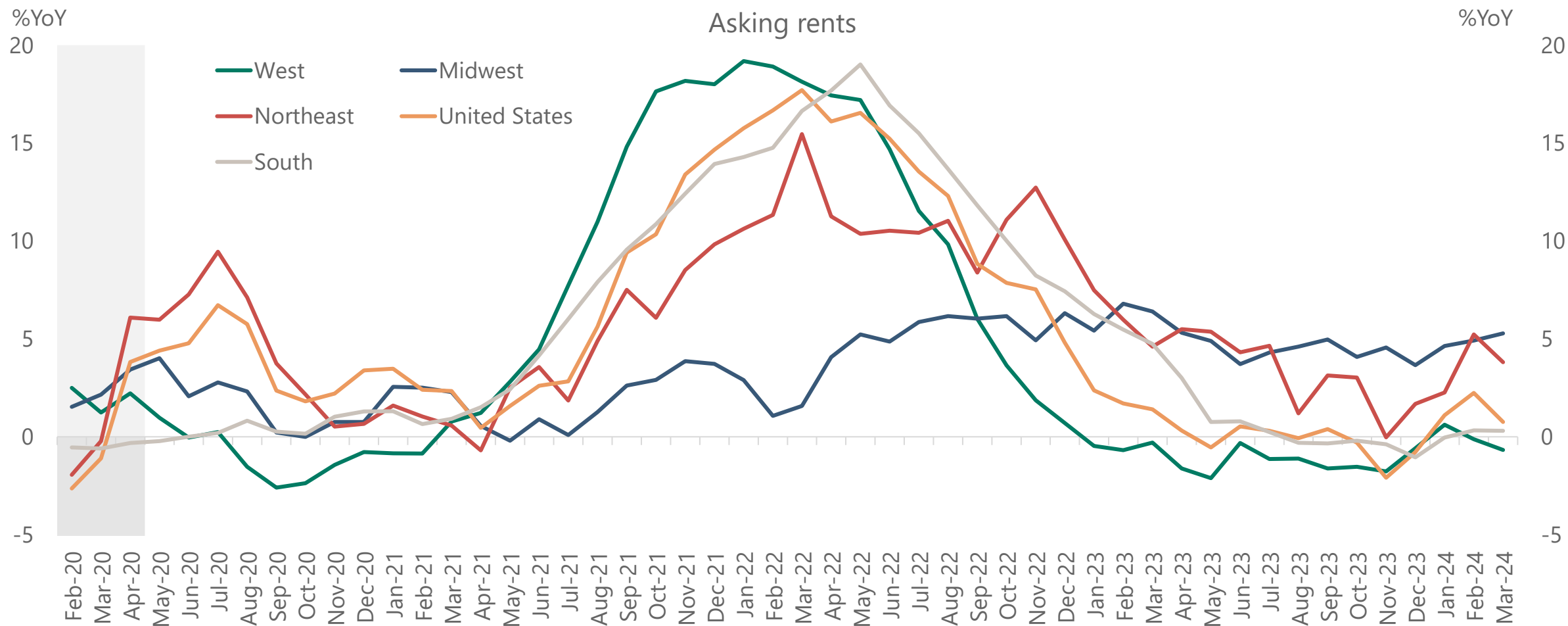


Source: American Enterprise Institute, Haver, Apollo Chief Economist

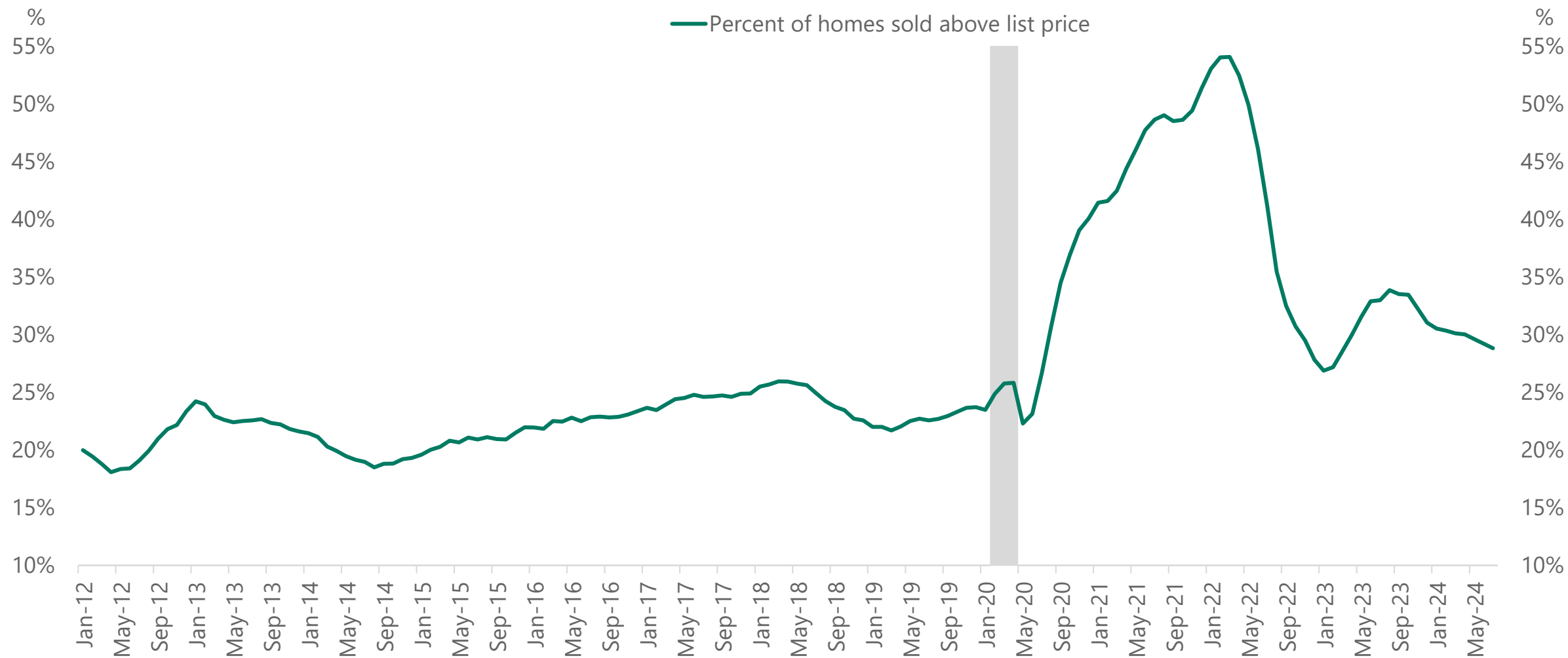
# Home price inflation solid because of low inventory of homes for sale



# Asking rents rising across regions

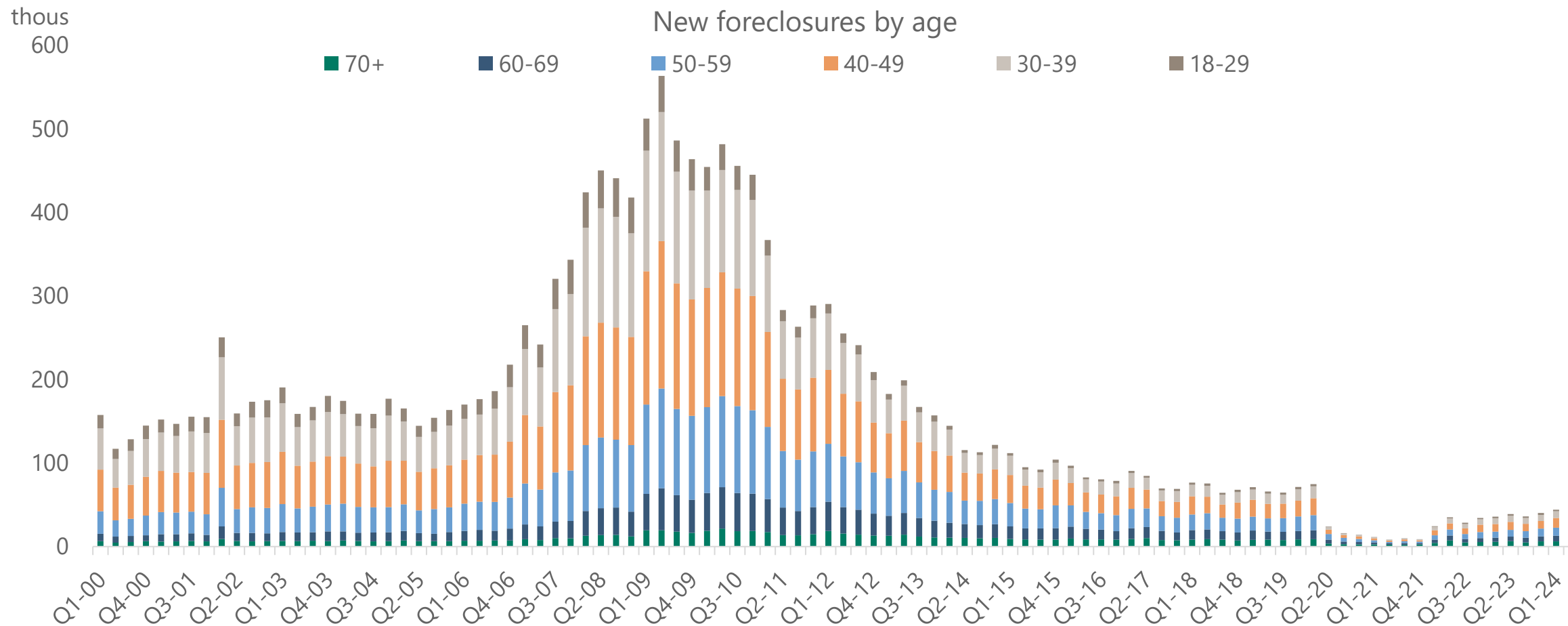


# 30% of homes selling above their list price



4) Housing Outlook: High mortgage rates, high home prices, rising unemployment, high construction costs, and strong supply pipeline are risks to this housing cycle

# New foreclosures, by age of homeowner



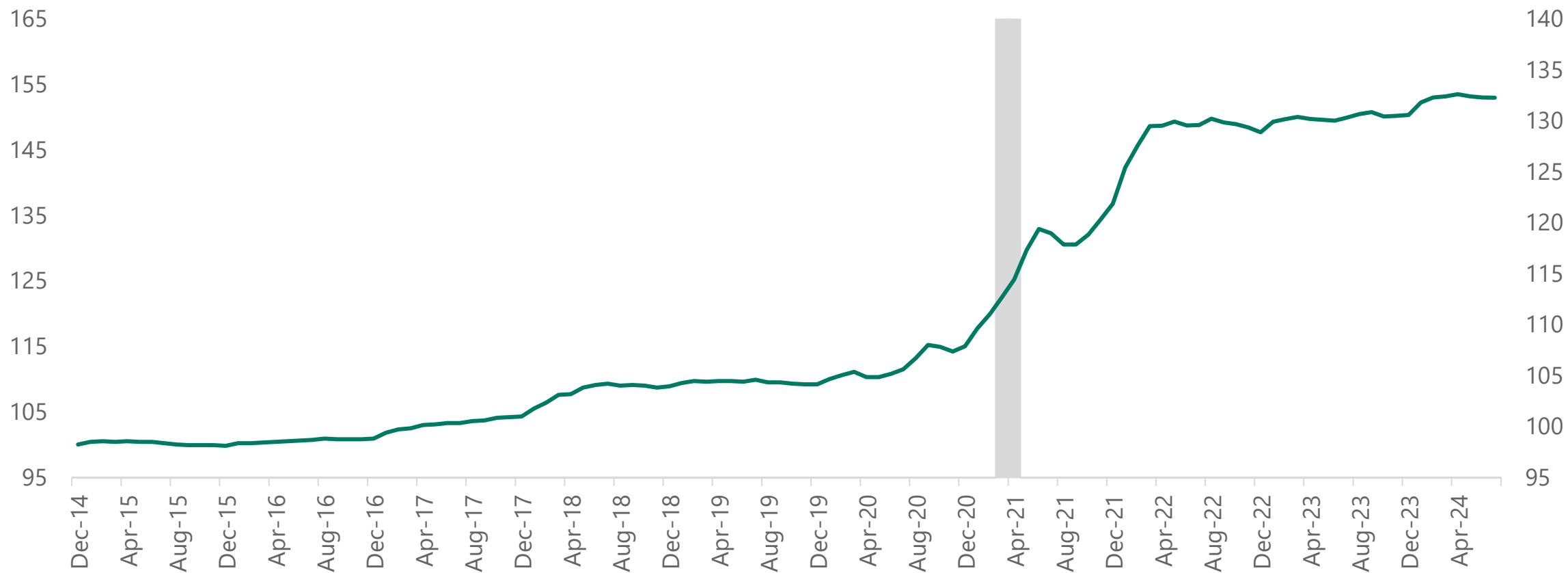
Source: FRBNY Consumer Credit Panel, Equifax, Haver Analytics, Apollo Chief Economist

# Housing construction costs remain high

1986 = 100, NSA

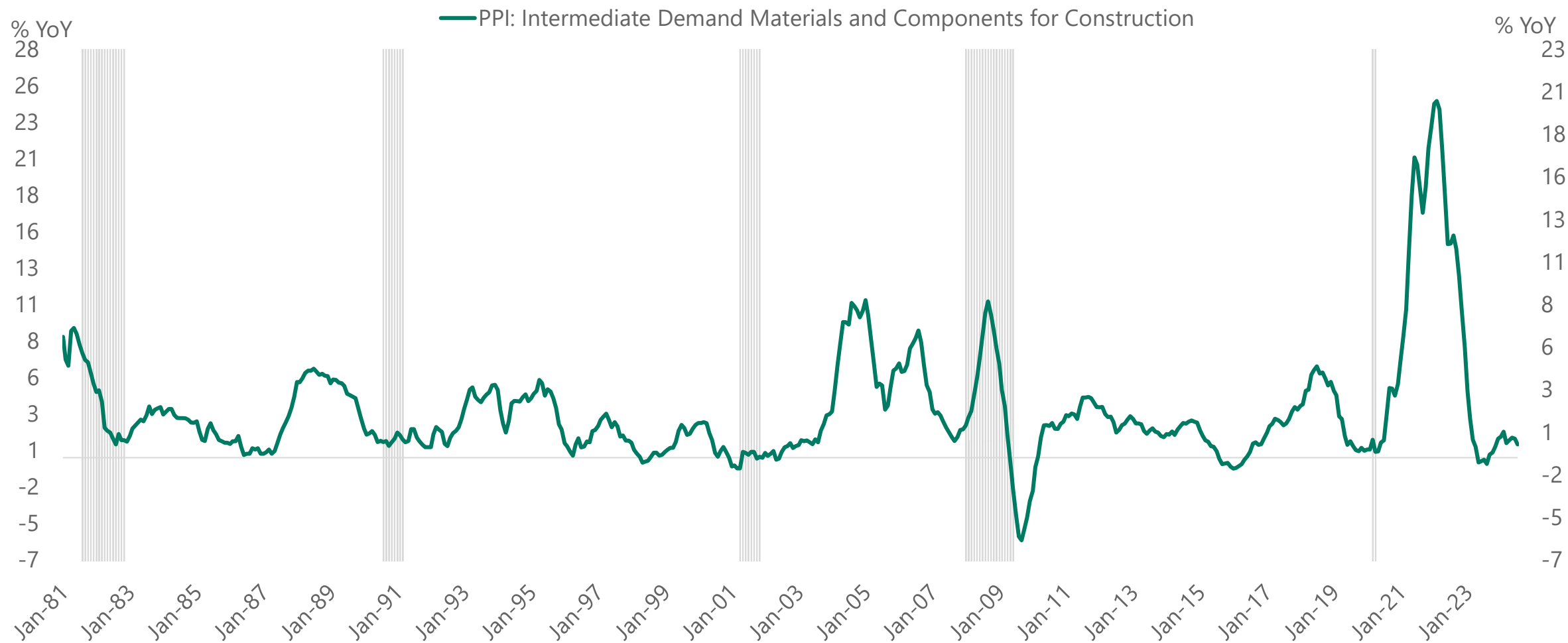
PPI: inputs to residential construction, goods less foods & energy inputs

1986 = 100, NSA

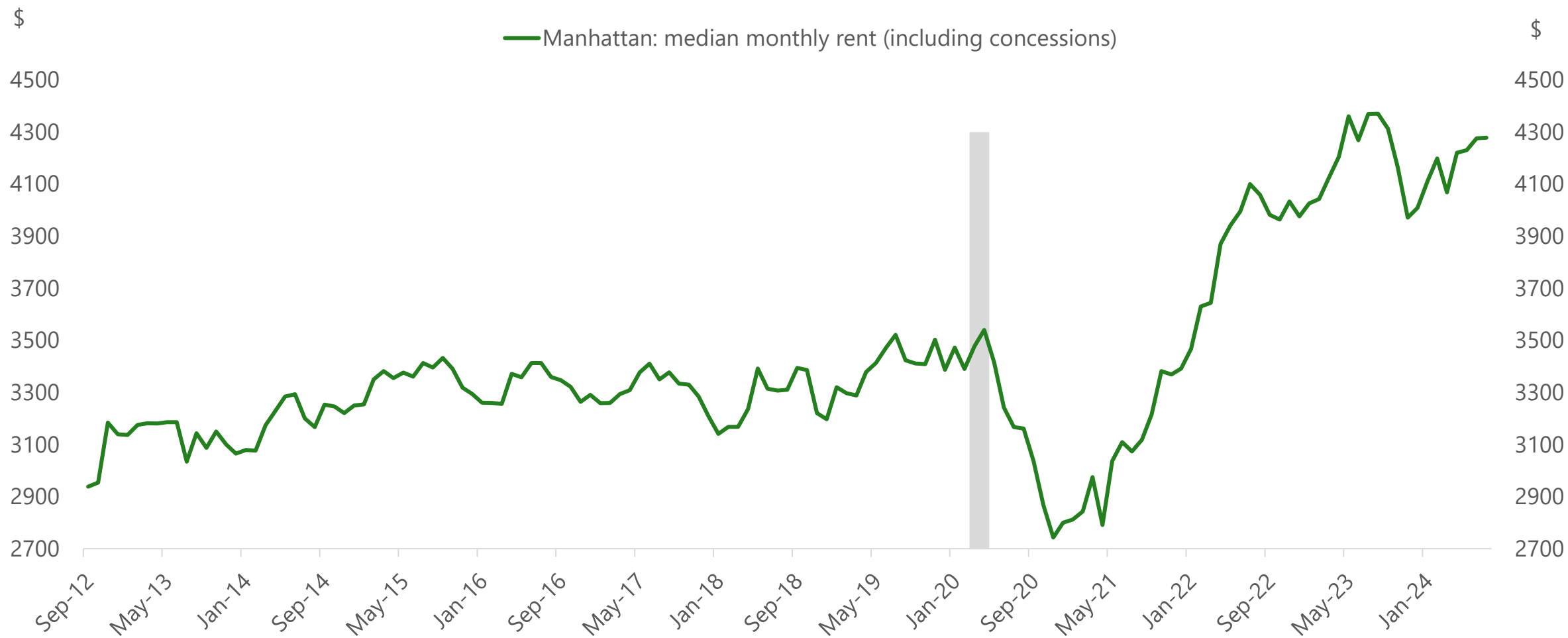




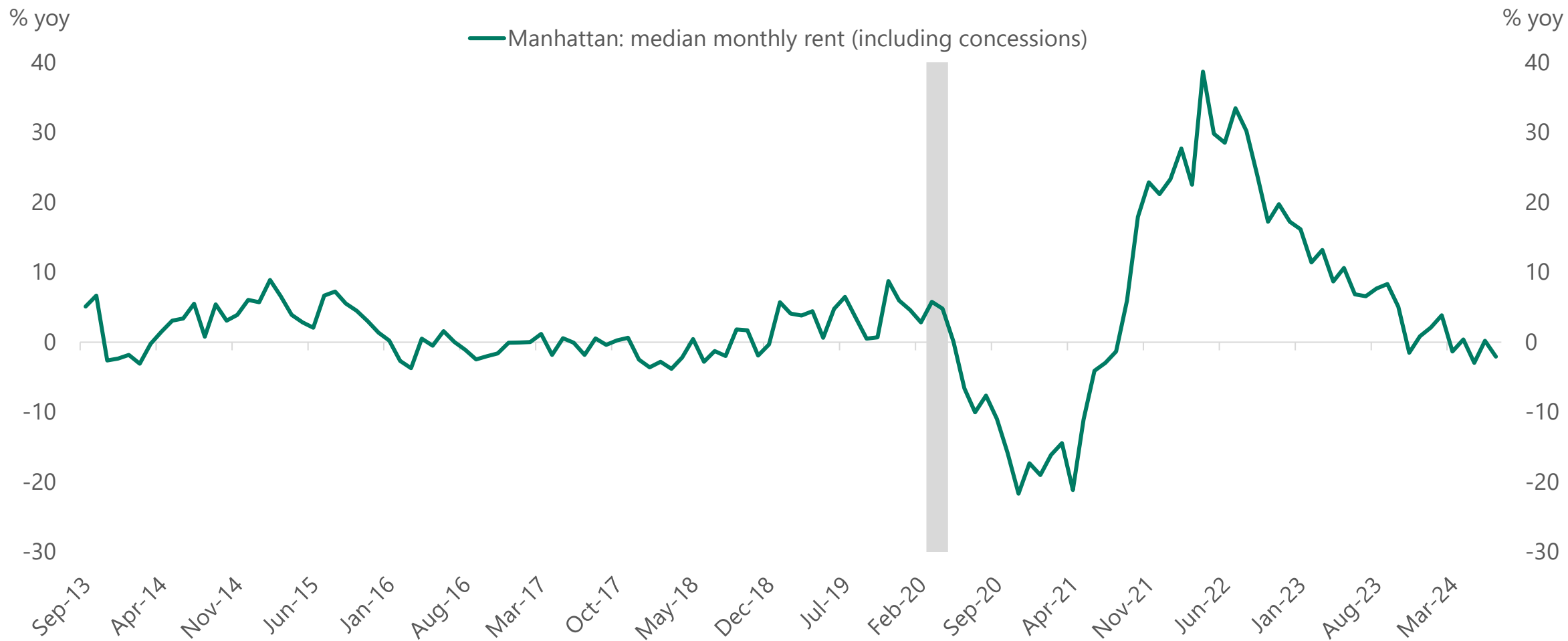
# Inflation in input costs for home builders



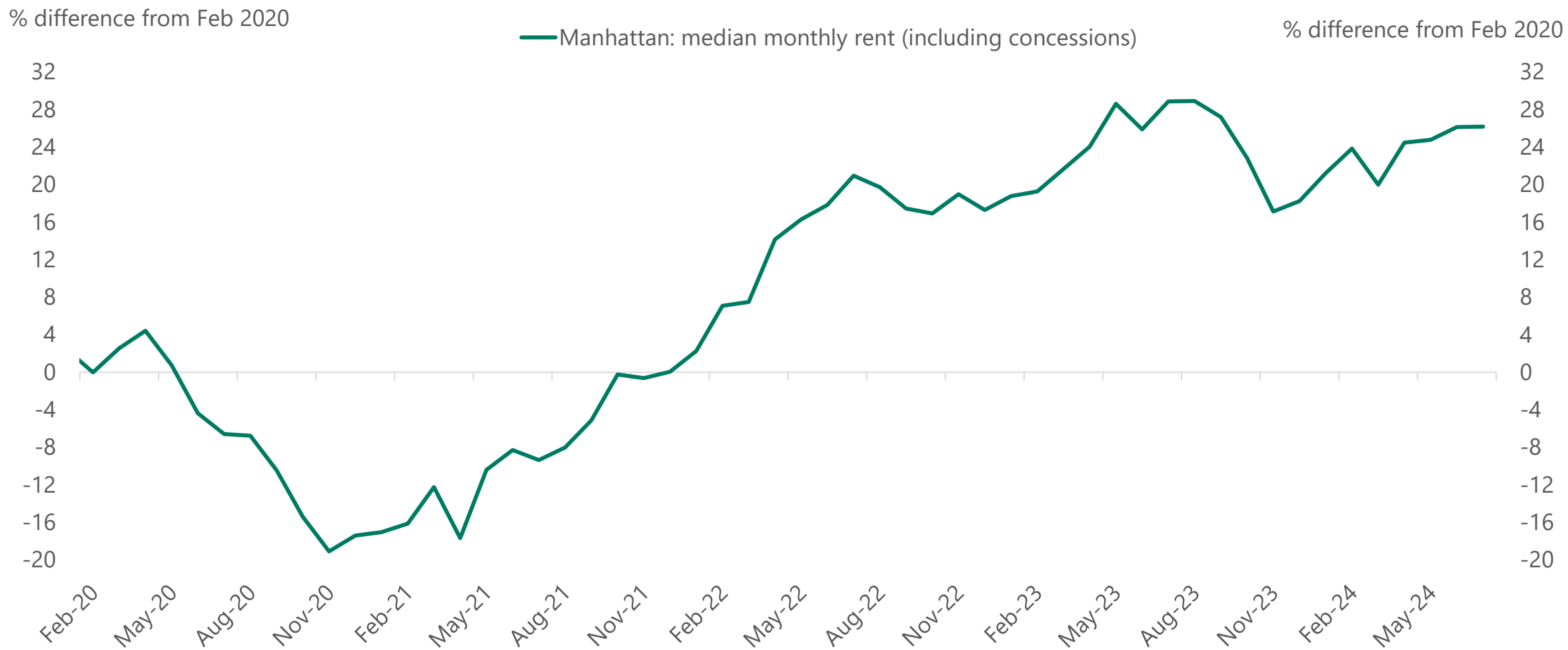
# Manhattan median rent rose to \$4278 in July 2024



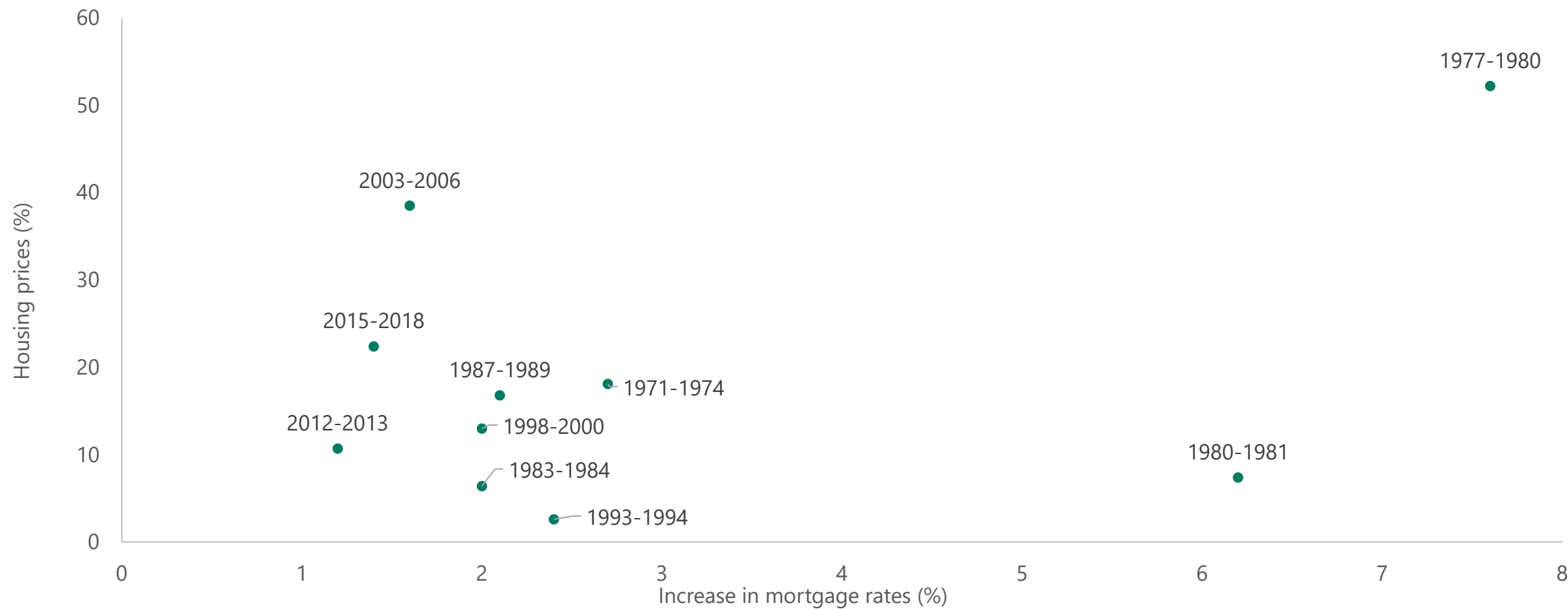
# Manhattan rent growth slowing



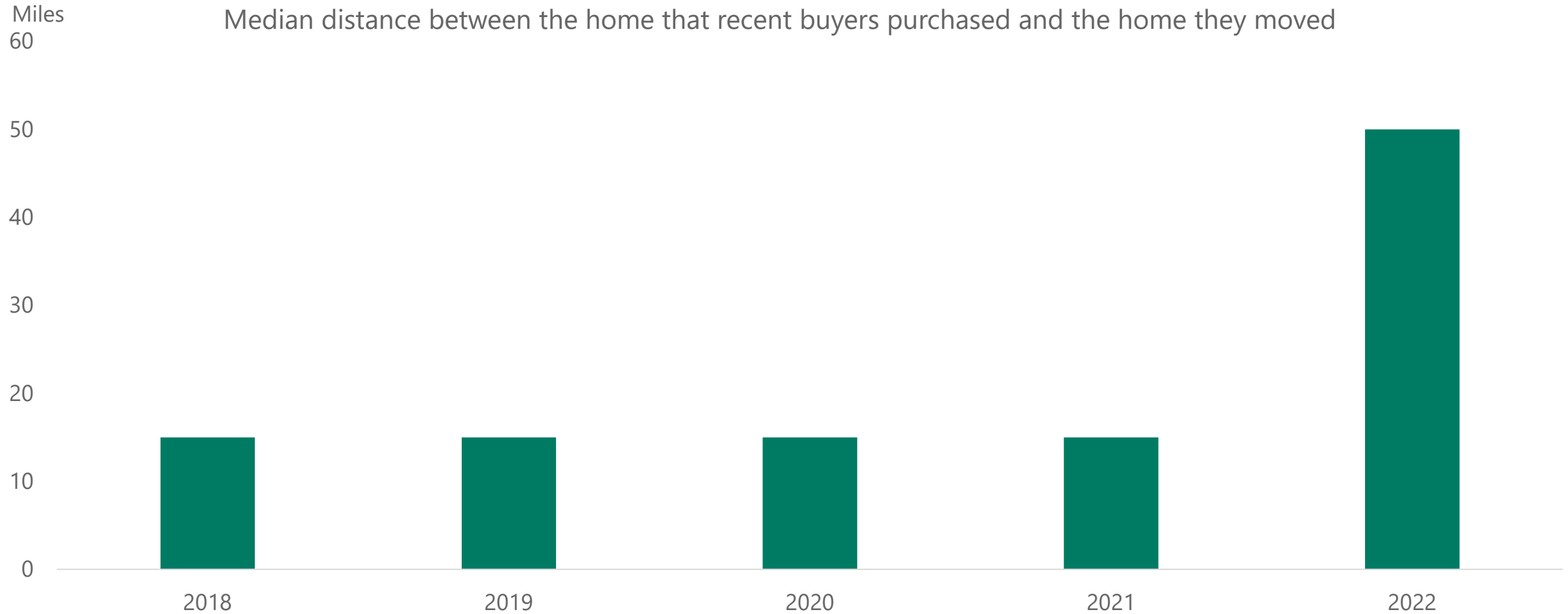
# Manhattan rents well above pre-pandemic levels



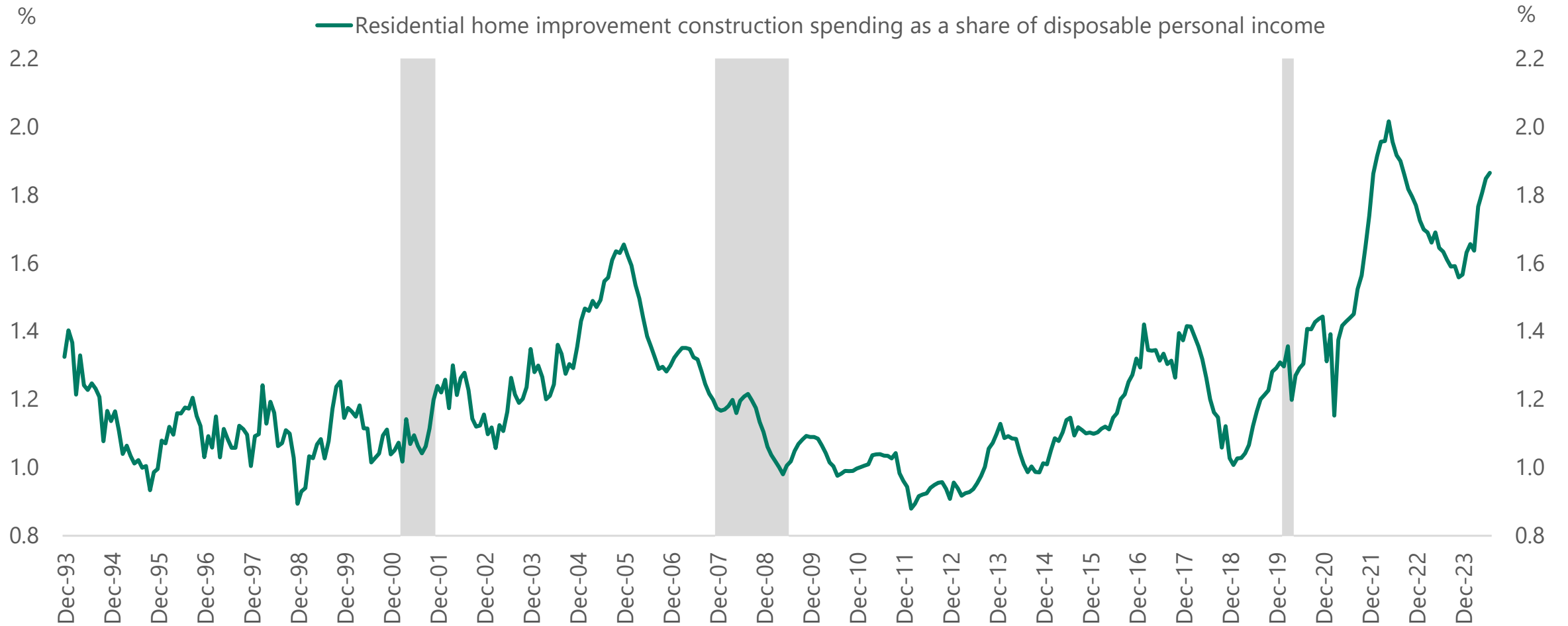
# Rising mortgage rates generally associated with lower home price inflation



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

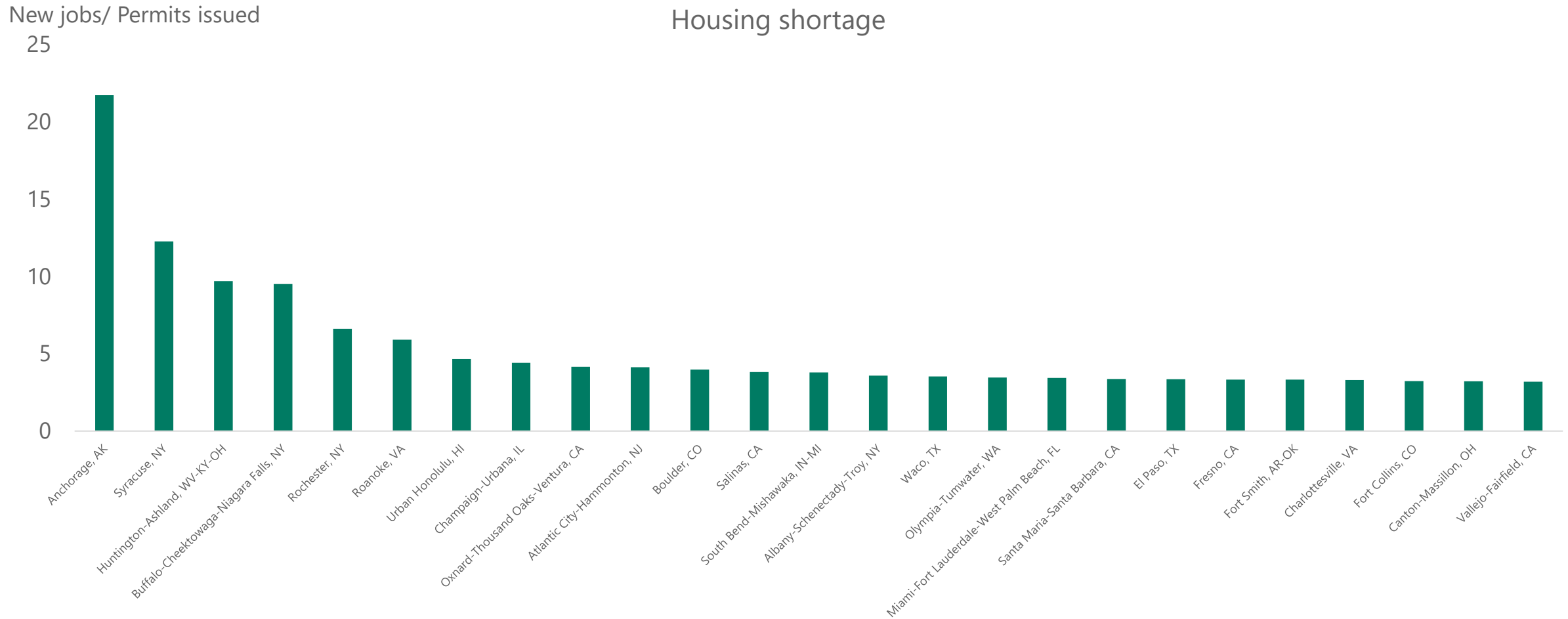


# Home improvement spending remains elevated



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

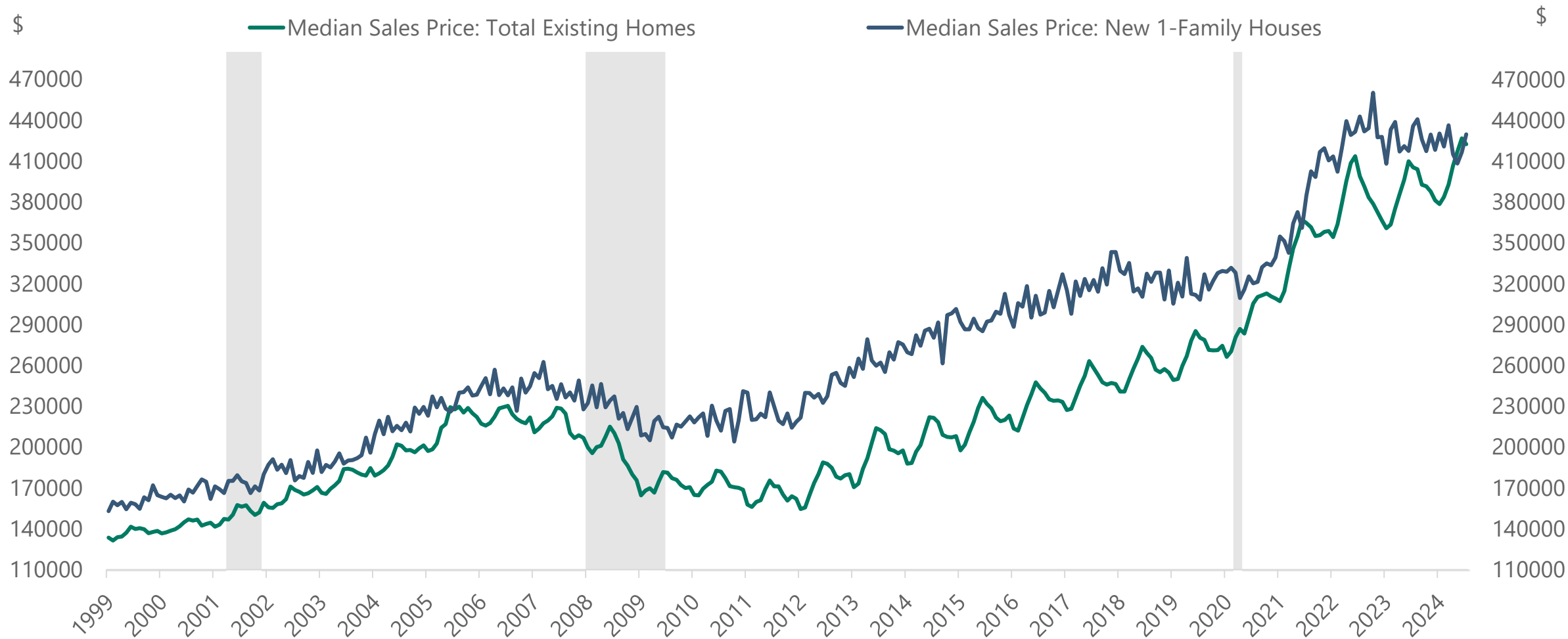
# Metropolitan areas that need to build more houses to keep up with the increased demand



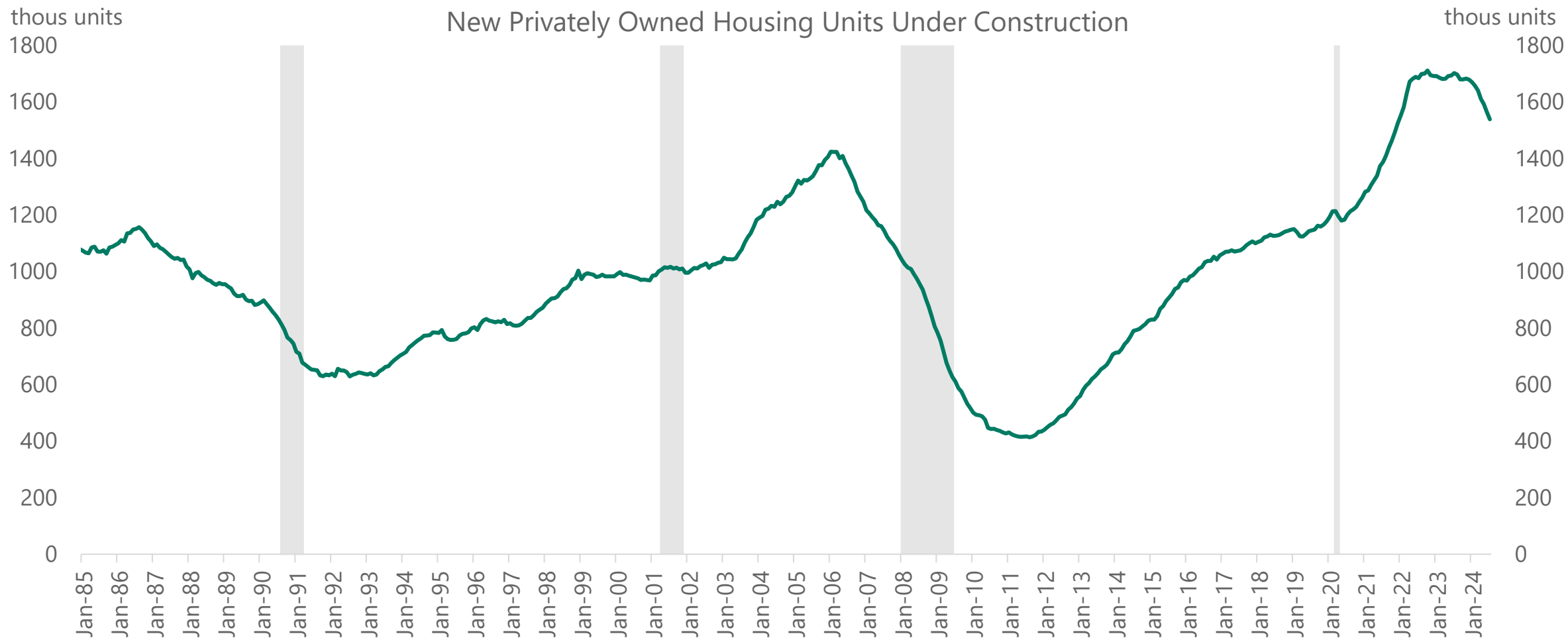


# New versus existing homes

# House prices for new homes and existing homes

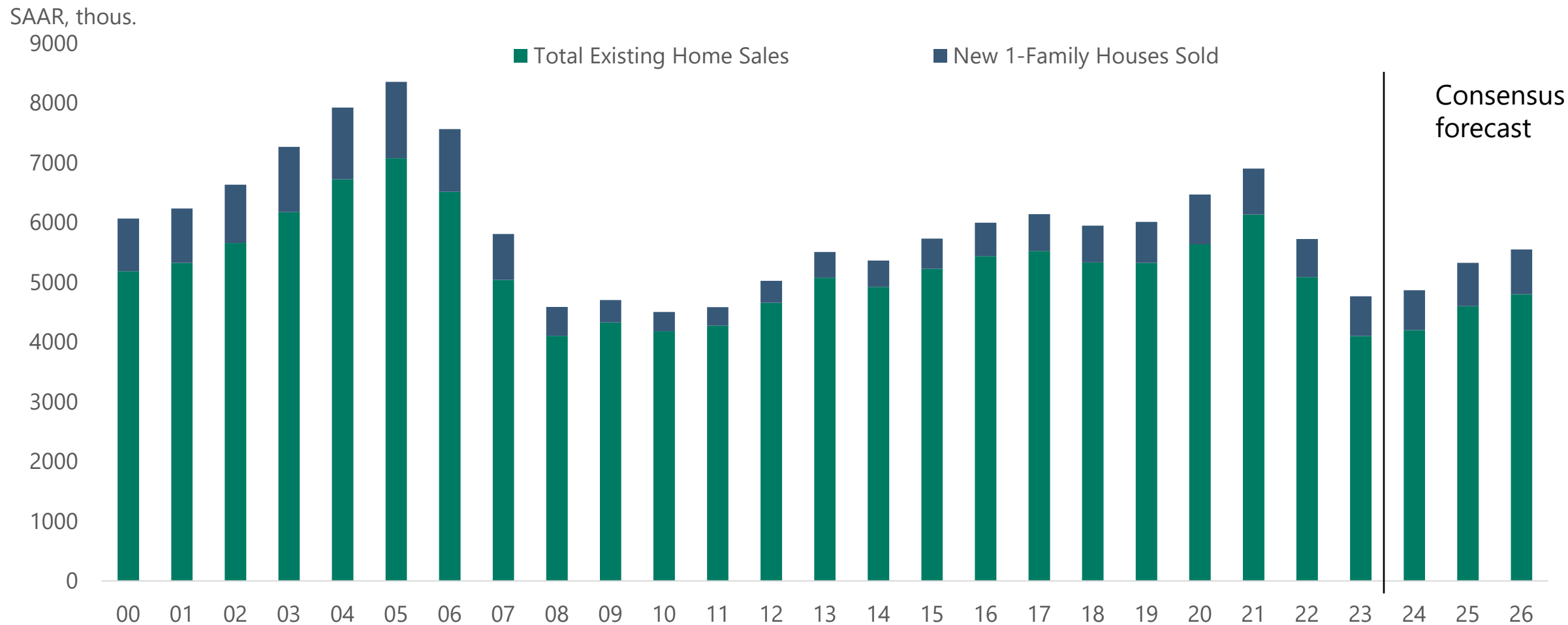


# New privately owned housing units under construction starting to peak



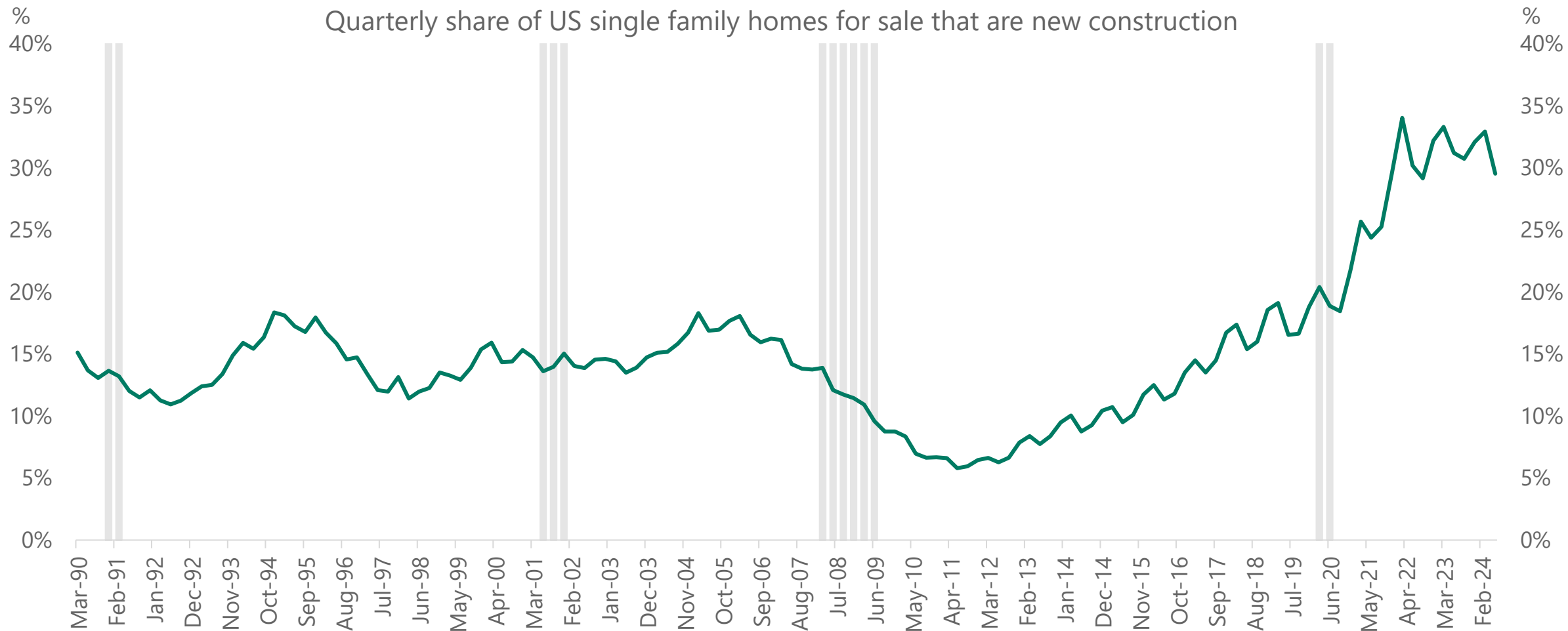
Source: Census Bureau, Haver Analytics, Apollo Chief Economist

# Consensus is forecasting a modest rebound in home sales

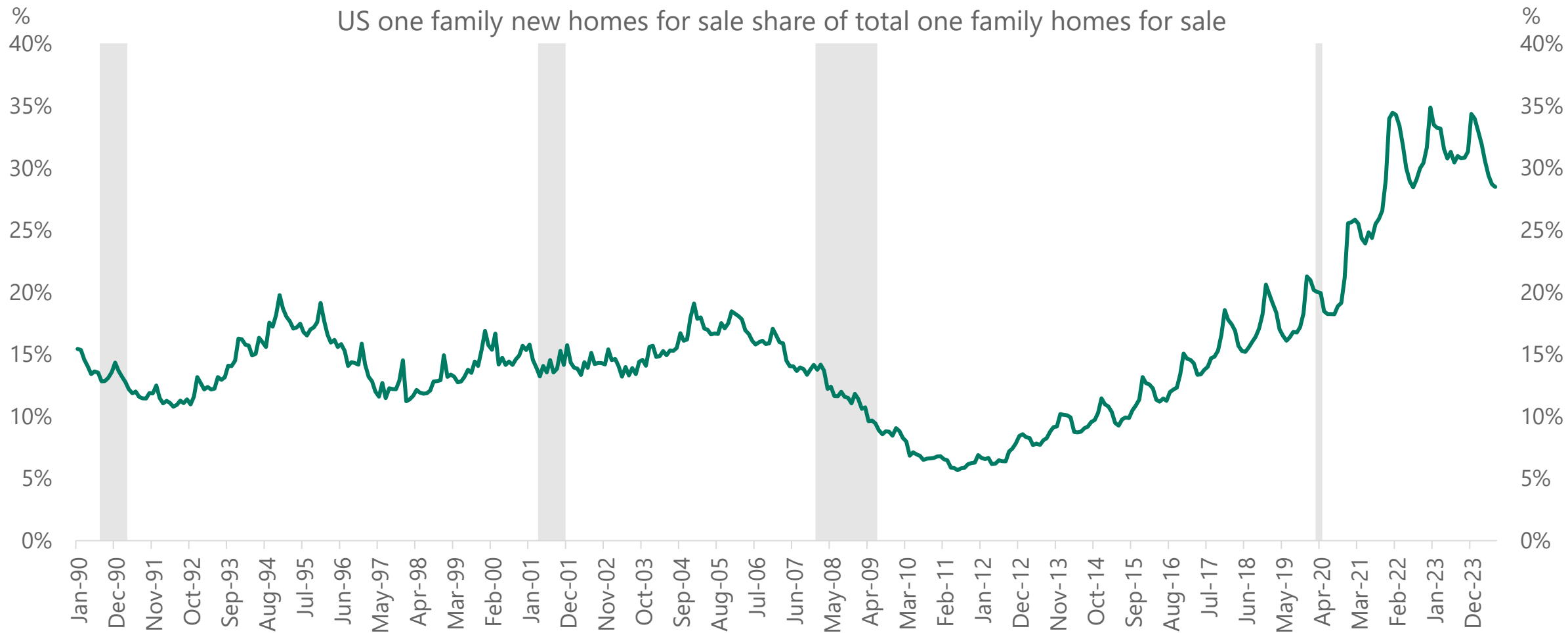


Source: Census Bureau, NAR, Haver, Apollo Chief Economist; Forecast is Bloomberg consensus

# Share of newly built homes for sale

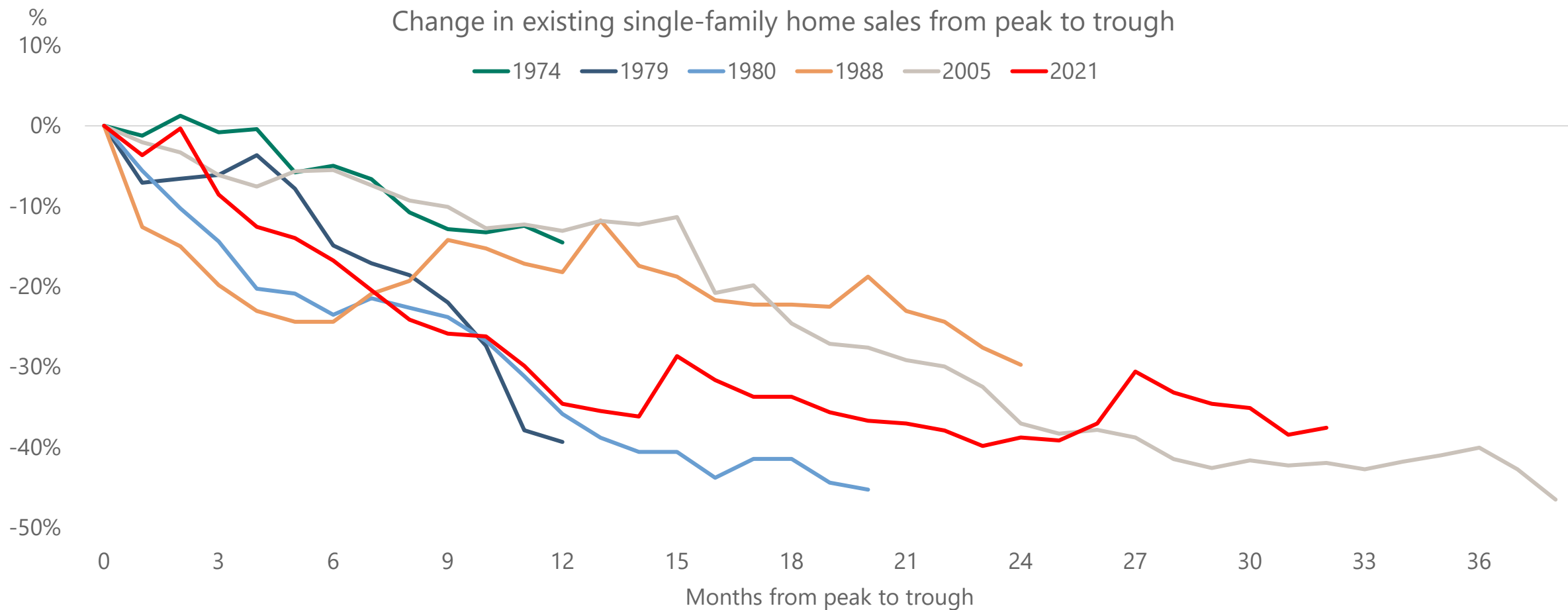


# Share of new homes for sale



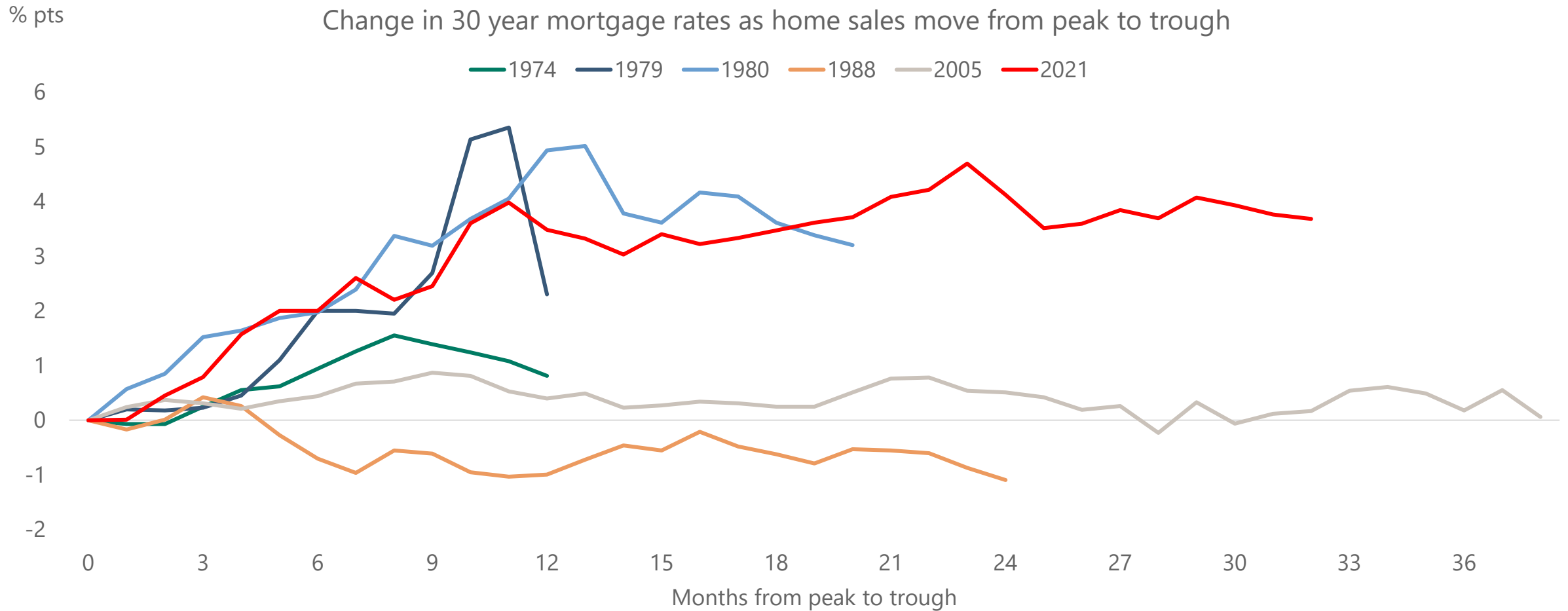
Comparing the current housing slowdown to previous housing slowdowns

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

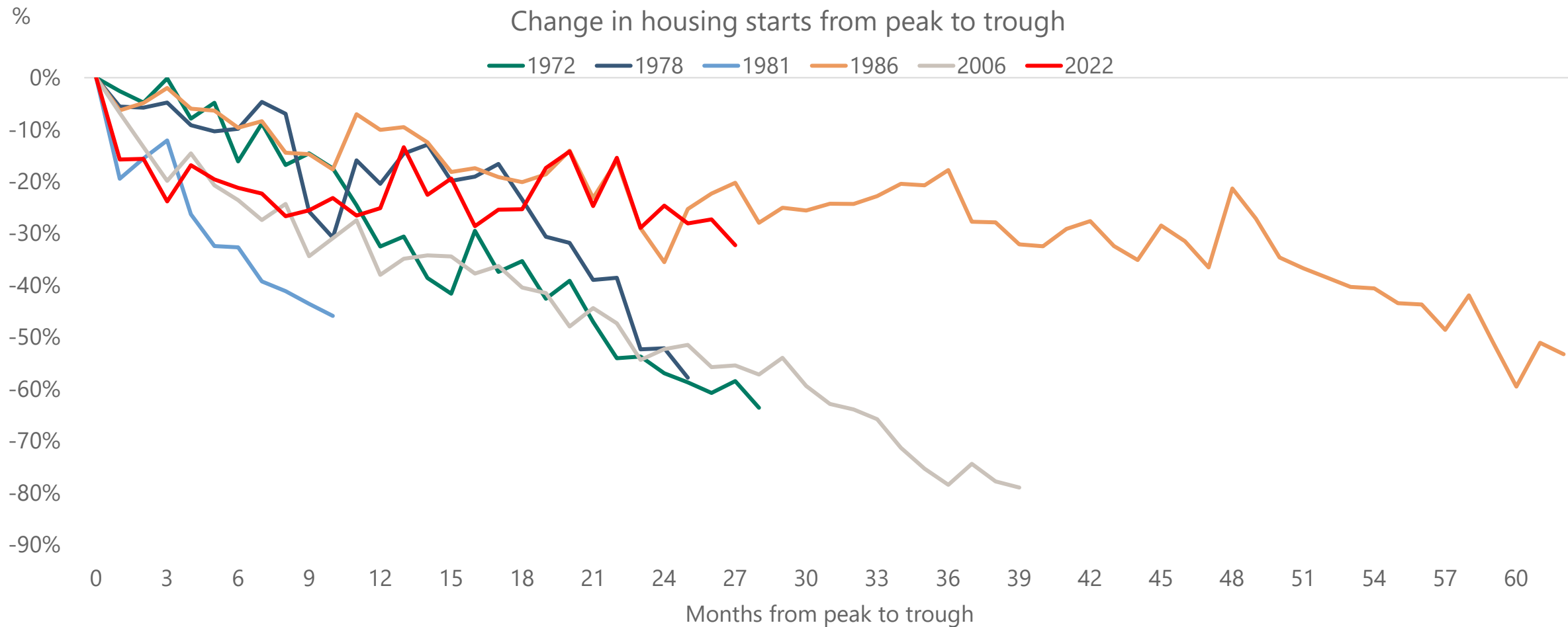




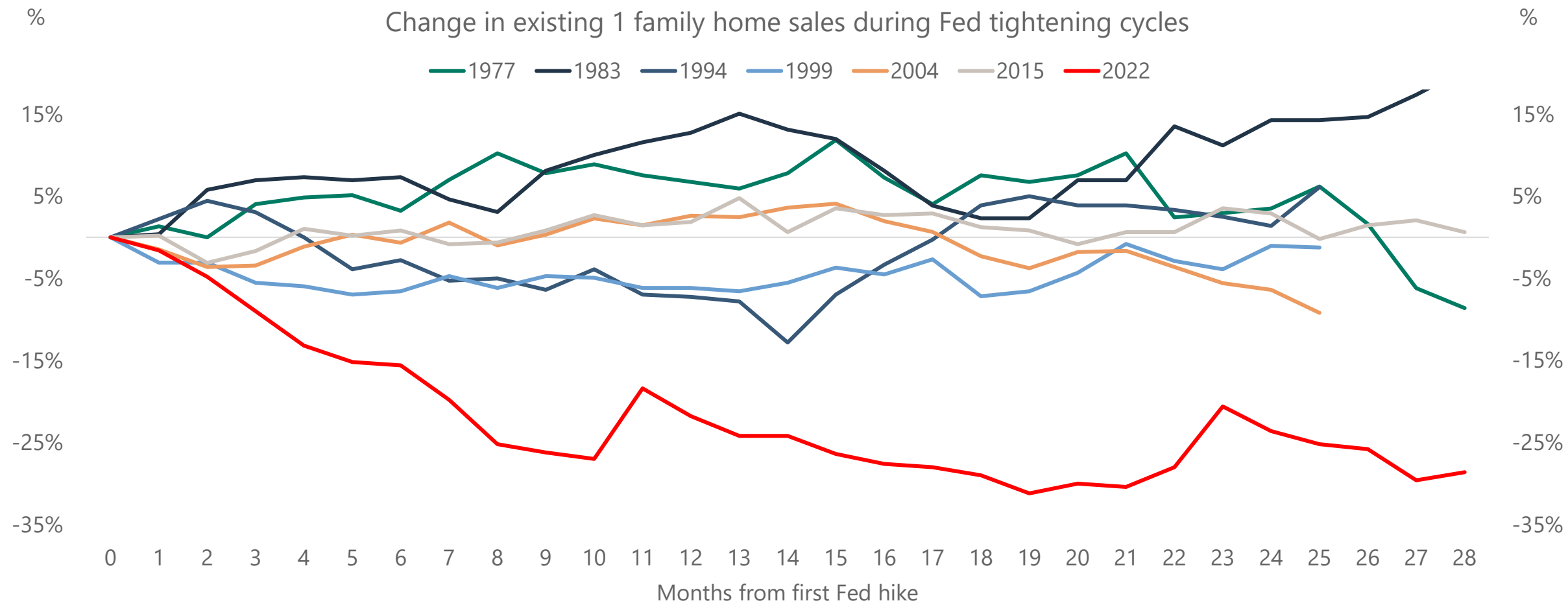
# The current rise in mortgage rates is similar to what we saw during the Volcker disinflation



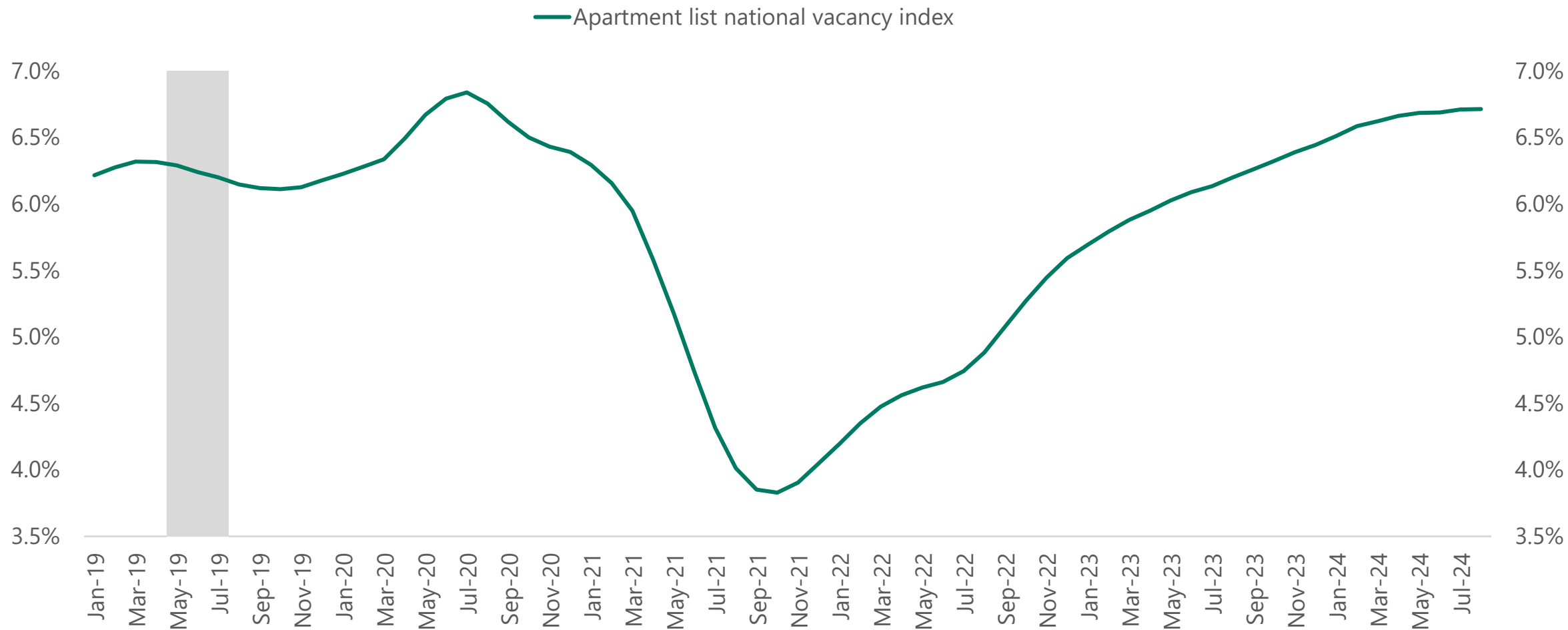
# The current decline in housing starts is a bit milder than previous slowdowns



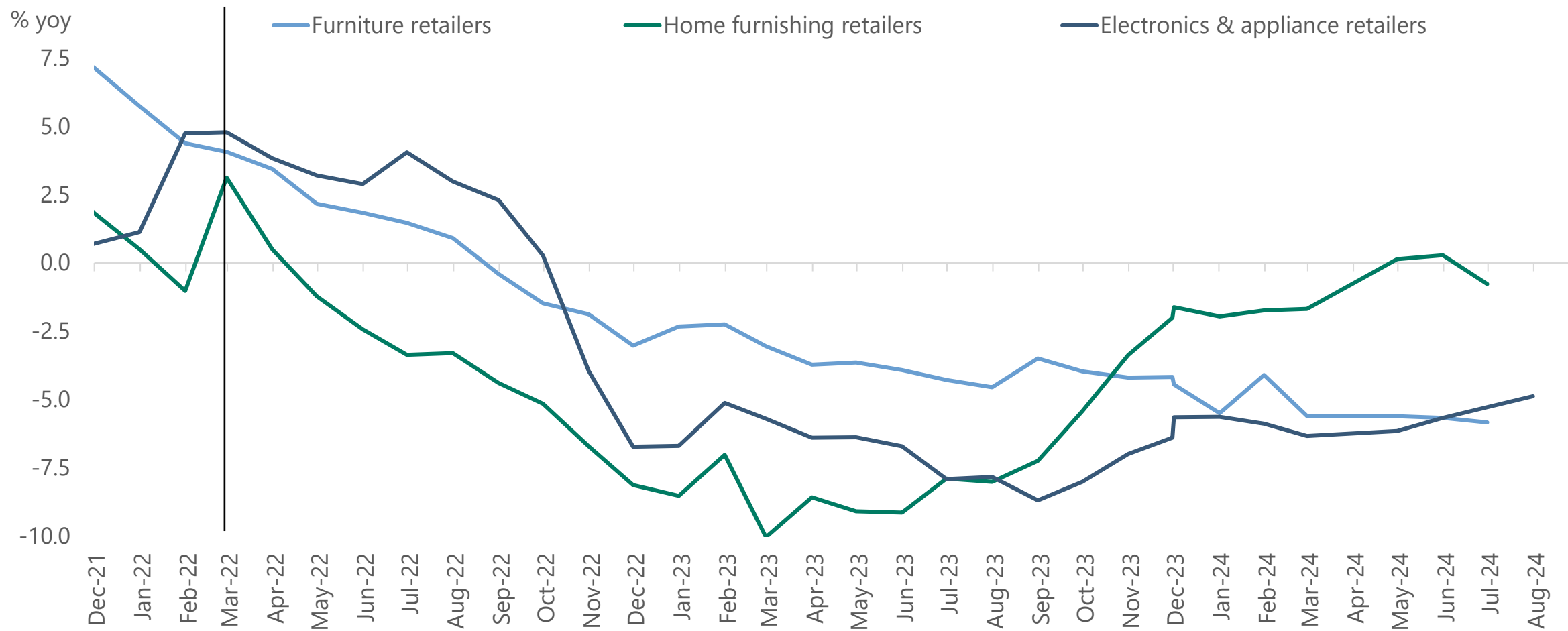
# This is the fastest Fed-driven housing slowdown on record



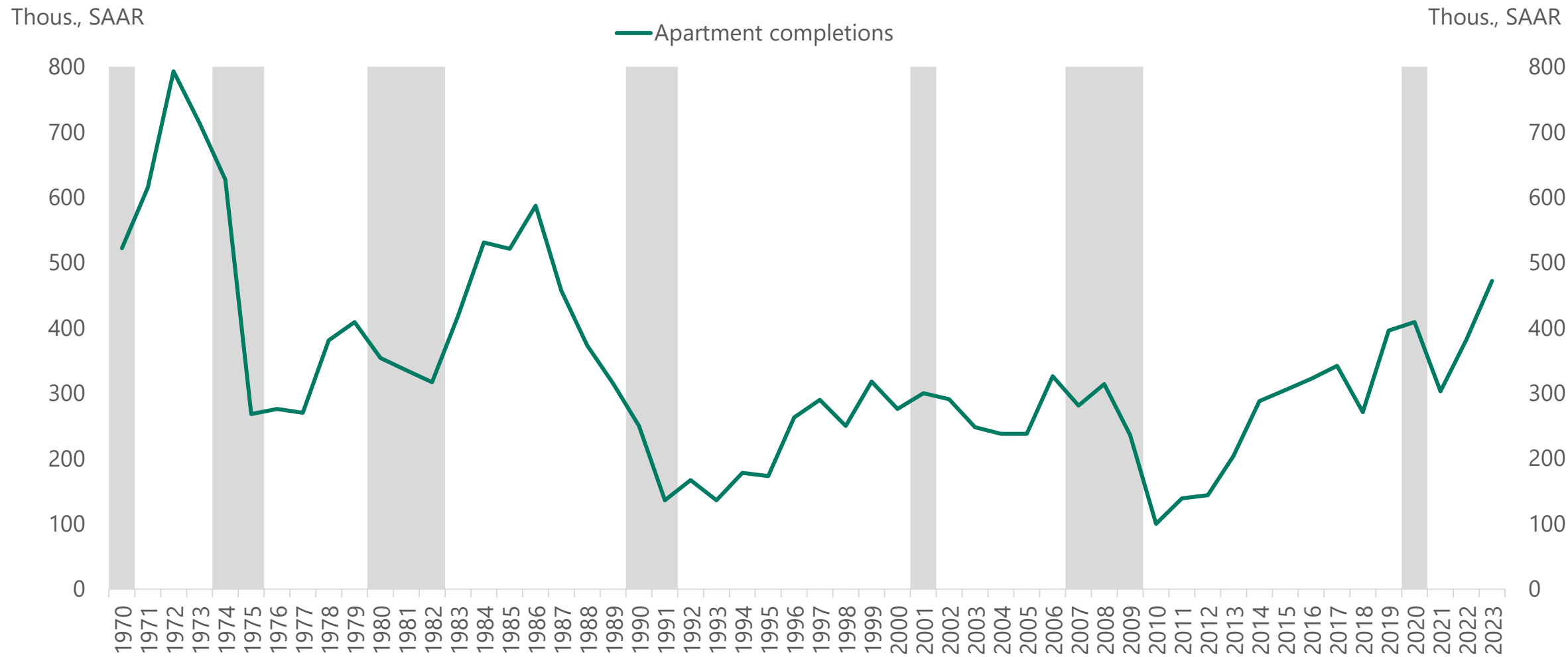
# Apartment vacancies are back above pre-pandemic levels



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

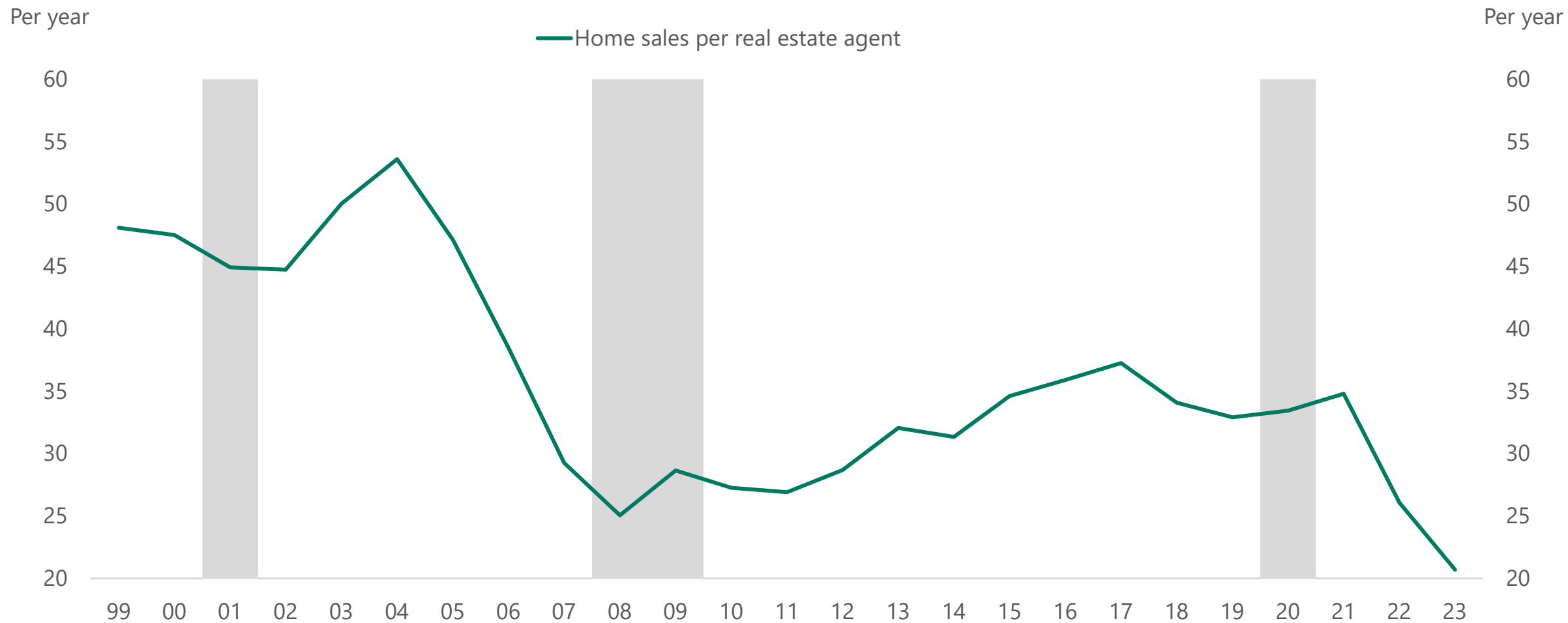


# US apartment supply increasing



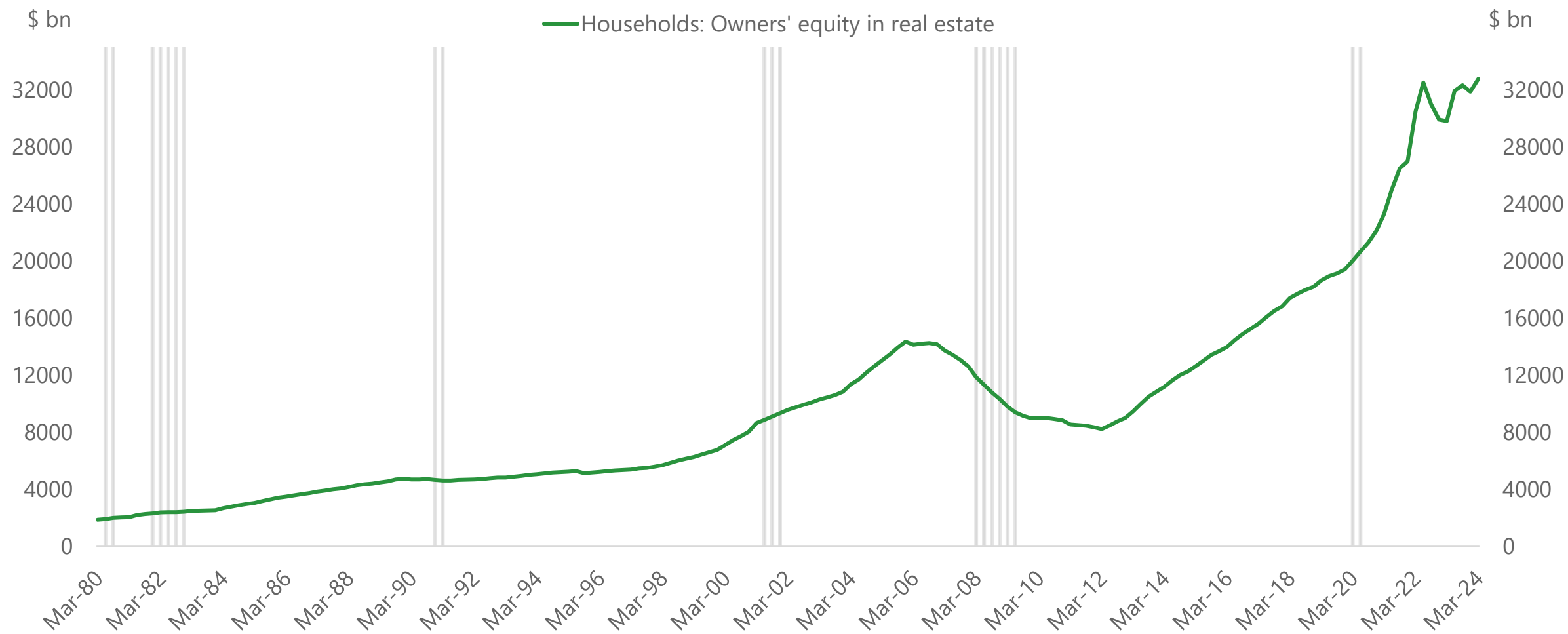
Source: US Census Bureau, Haver Analytics, Apollo Chief Economist

# Real estate sales agents face more challenges



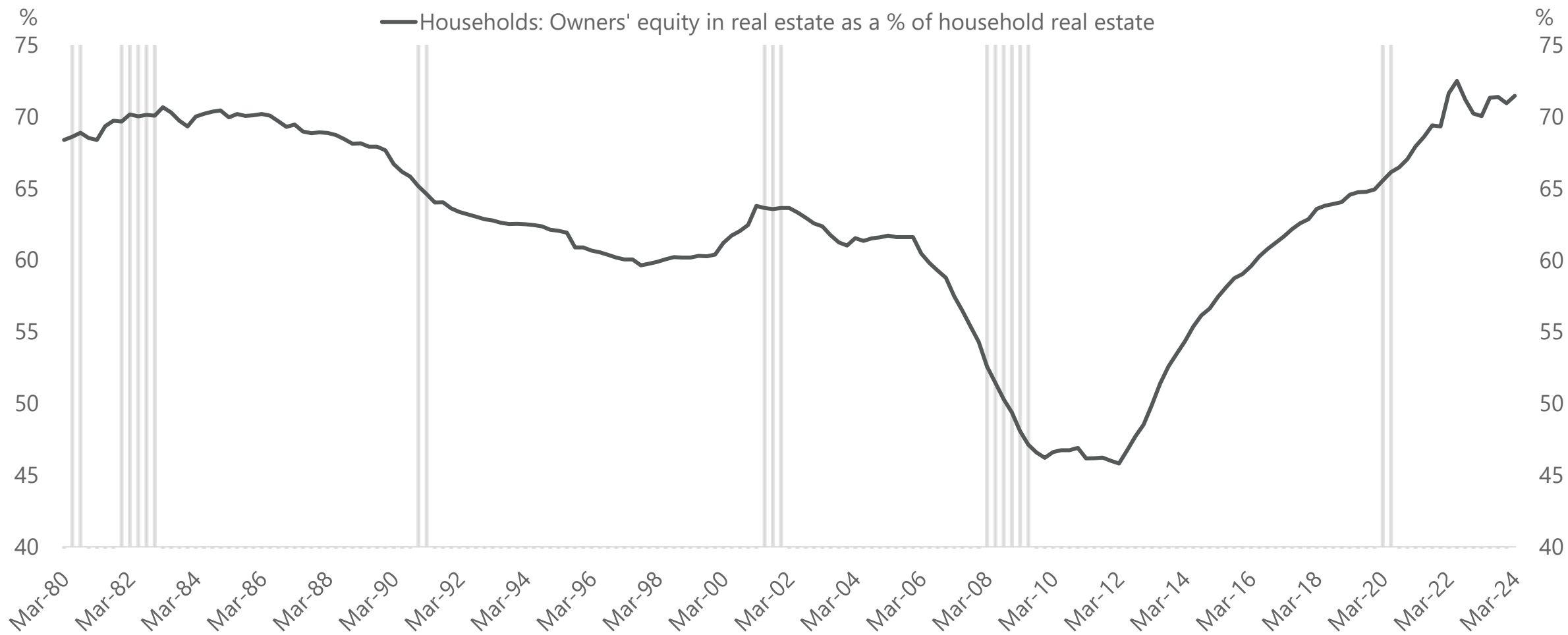
Source: NAR, BLS, Haver Analytics Apollo Chief Economist

# Households' equity in real estate rising

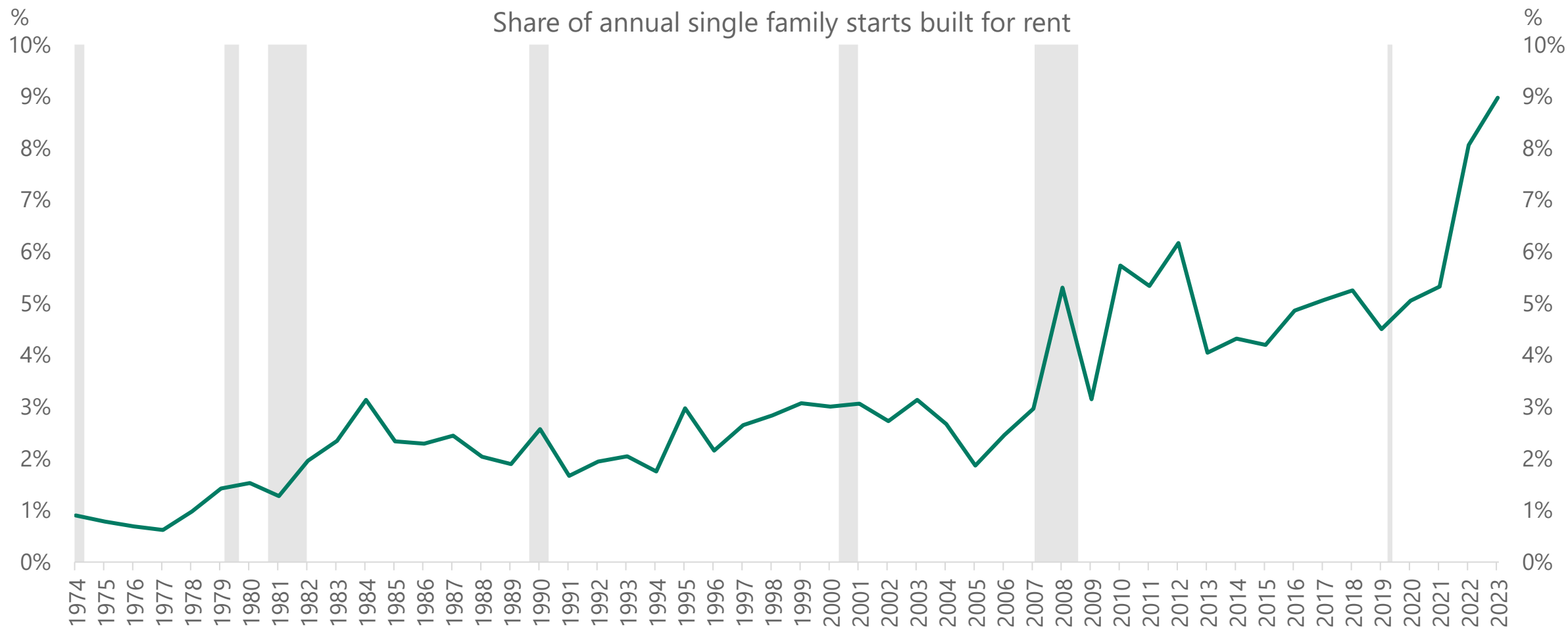




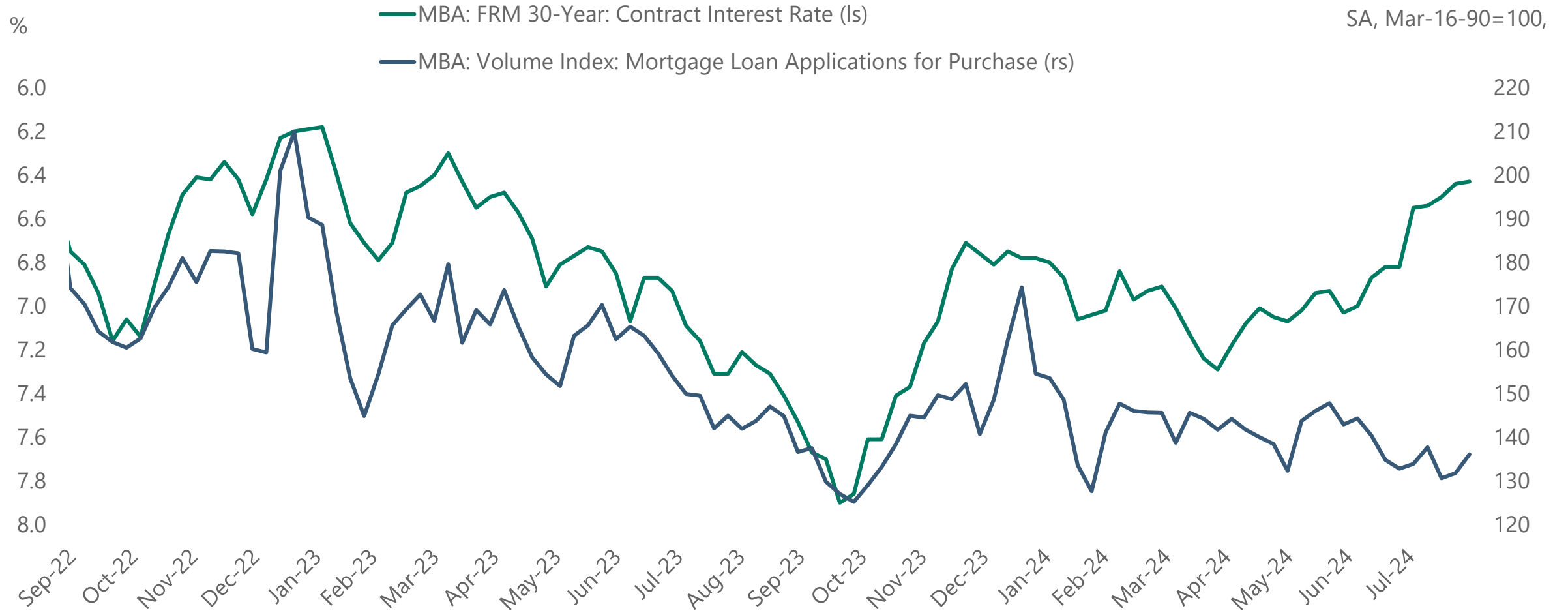
# Households' equity share in real estate rising



# Share of homes built for rent going up



# Loan applications remain low



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



# Torsten Slok, Ph.D.

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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.