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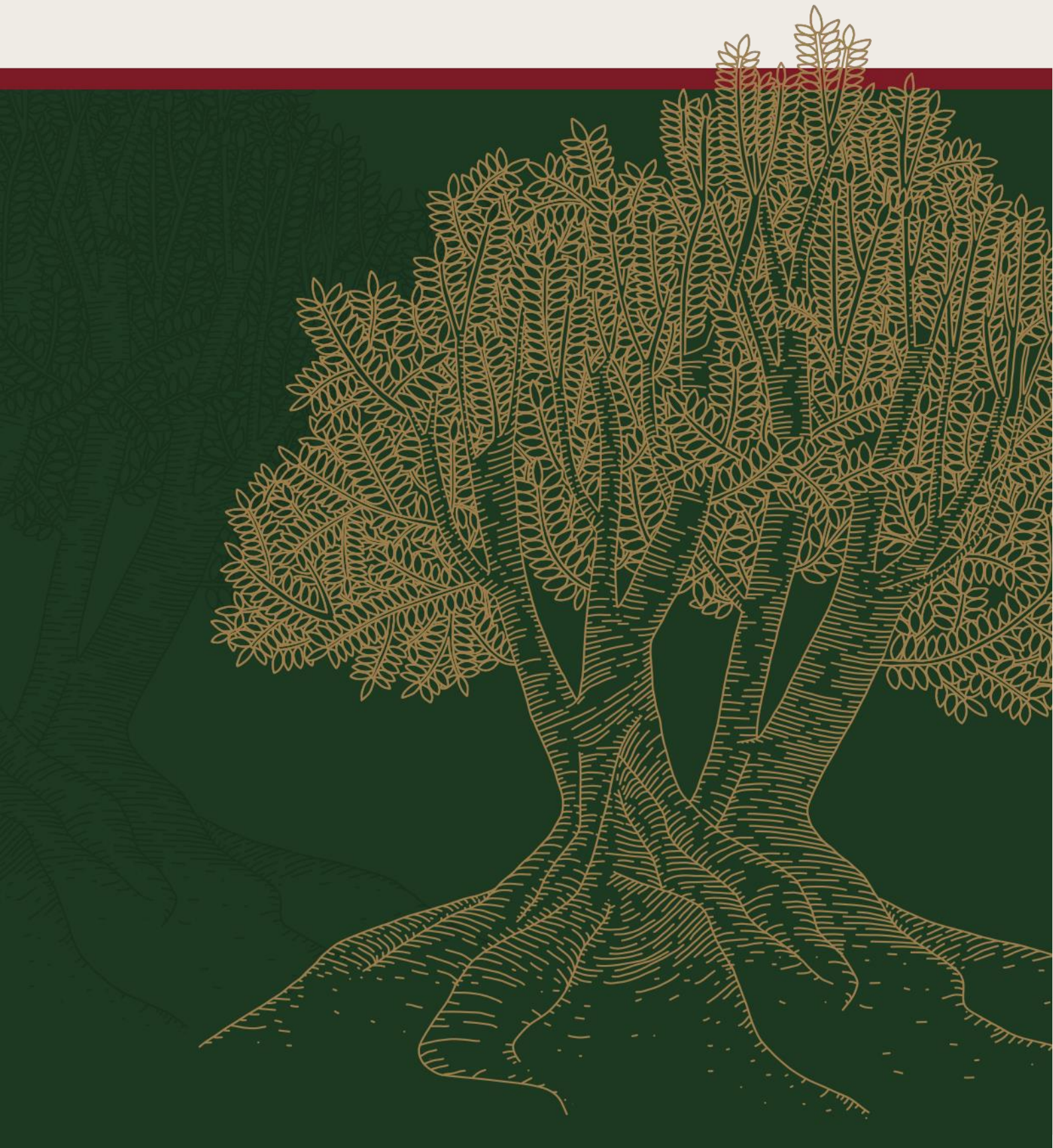
FROZEN US HOUSING MARKETS AND INFLATION – ARE HIGH INTEREST RATES KEEPING INFLATION ELEVATED?

May 2024



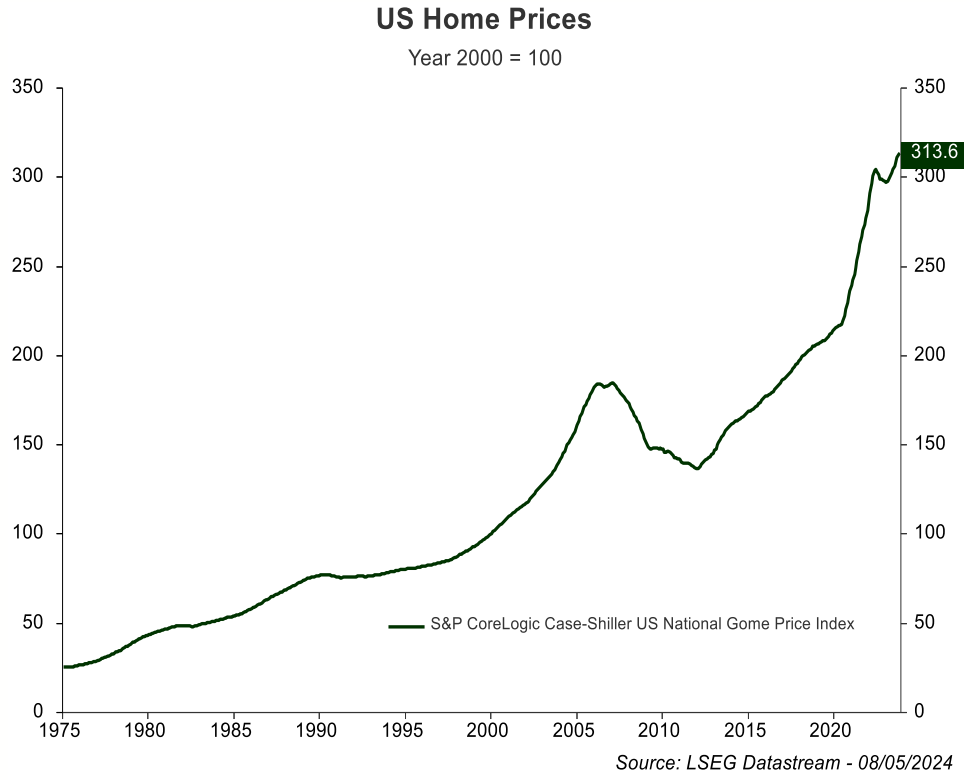
INTRODUCTION

After a period of steady disinflation from the ~9% peak in June 2022, US CPI inflation data has disappointed in recent months by coming in higher than expectations. It appears inflation remains "sticky" above 3%, complicating monetary policy for the Fed (they had until recently signaled a dovish bias toward easing policy rates later this year). But what if the "restrictive" monetary policy stance could be counterproductive to some important components of inflation, hence actually keeping CPI elevated? This thinking could imply that a successful "soft-landing" scenario is even more difficult to achieve than widely appreciated. In particular, the continued strength of the US housing market – despite higher interest rates – directly leads to some stickiness in inflation via the shelter component.

THE US HOUSING MARKET: HISTORICALLY TIGHT SUPPLY

US house prices, after a brief lull in 2023, have continued their upward trend in recent months with the Case-Shiller house price index now 6% up year on year.

Figure 1: Case-Shiller US national house price index



And importantly, given how long policy rates in the US (and other developed nations) were held at the zero bound, in conjunction with the pace and extent of tightening post 2021, we now have an unusual situation where the gap between *current* mortgage rates and the *average rate of interest paid on existing mortgage stock* is exceptionally large by historical precedent:

Figure 2: Trapped homeowners – nobody would want to swap a 4% mortgage for a 7% one!

This gap between existing mortgage rates and new ones means that existing homeowners are more reluctant to move as they would have to pay much more to finance the new property. Bringing demographics into play, baby-boomers stay in their large houses even when their kids have left home. This supply contraction of existing homes effectively means a tighter housing market, keeping prices high, but resulting in less liquidity.

This supply constraint can be seen in low real-estate inventory levels compared to historical norms.

Figure 3: US housing inventory

One of the key transmission channels from higher interest rates into property supply is the labour market. When companies cut costs and some leveraged homeowners lose their job, supply of property typically goes up and house prices fall.

But that is not the case as **the unemployment rate remains close to historic record lows**. The Fed has been successful in engineering a "soft landing" and if anything, the economy remains far more resilient than widely anticipated after the rapid rate hikes in 2022 and early 2023. Expansionary fiscal policy has also supported growth. All this contributes to the tightness of supply in the property market.

DEMAND FROM FIRST-TIME BUYERS SLOWING – BUT NOT ENOUGH

The impact of higher interest rates is not limited to *existing* property supply factors as discussed above. At the same time, higher interest rates have a negative impact on property demand from prospective new buyers.

To illustrate the impact on home affordability changes for the average American from pre-Covid times to today, consider the following example:

Census data indicates that the median sale price of US homes in Q4-2023 was $417,000, up ~25% from pre Covid levels (Q1-2020: $330k). 30-year mortgage rates, the typical term in the US, are now around 7.1% as compared to 3.5% pre Covid. Over this same time, US personal income per capita has risen by around 23%. So, while incomes have essentially kept pace with the increase in house prices, the **share of income going to service the debt on the average home has risen sharply**; if we assumed the "average" American (I've assumed per capita personal income) financed the "median" home 100% with a 30-year mortgage, they would absorb almost 50% of their income, up from 30% pre Covid:

Figure 4: Monthly payments for the average house have risen 90% in 4 years, far outpacing incomes

	Q1-2020	Q4-2023	% change
"Median" home price	$ 330,000	$ 417,000	26%
Mortgage term (months)	360	360	
Annual interest rate	3.5%	7.1%	
Monthly payment (principal + interest)*	**$ (1,482)**	**$ (2,802)**	**89%**
US personal income per capita (annual)	$ 56,630	$ 69,408	23%
Monthly payment as % of income	**31%**	**48%**	

**100% Financing Assumed*

Calculations by Omba Advisory & Investments Ltd

It is no wonder that housing affordability in the US is a major issue – especially for first time buyers who have not had the benefit of prior ownership and the associated build-up of home equity.

The key implication of these dynamics is that prospective new buyers are locked out of the housing market and **forced to continue renting** or staying with relatives.

SHELTER INFLATION THE KEY DRIVER OF CPI TODAY

UNDERSTANDING ITS MAKE-UP IS IMPORTANT

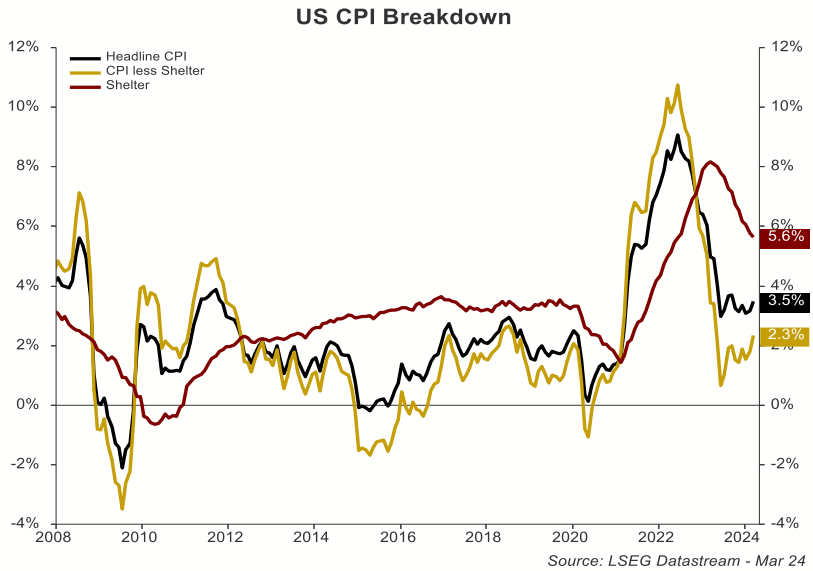
The characteristics of the current US housing market discussed above, namely high property prices, rising mortgage costs and people forced into renting, have an important impact on inflation.

Shelter accounts for 36% of the headline CPI basket in the US and has been a key driver of inflation for some time. This key component consists of the following sub-components:

1. **Rental of primary residence – 7.6% of headline CPI basket.**
2. Lodging away from home – 1.4% of basket
3. **Owners' equivalent rent (OER) – 26.7% of basket**
4. Tenants' and household insurance – 0.4% of basket

OER is by far the most important component of this index and has been rising by a steady 0.4% per month in recent months, making it the key driver of "sticky" inflation. Bear in mind that when looking at "core" inflation (ex-food and energy), the proportionate weight for shelter rises from 36% to 45% (i.e. from 36 out of 100 to 36 out of 79.75 for the index less food and energy). For March 2024, shelter inflation accounted for almost 2/3rd of the 3.8% rise in core inflation on a year-on-year basis, with the other 55% of the core inflation components delivering the remaining 1.2%. *This implies an inflation rate of 2.2% for the CPI components ex food, energy and shelter* – not too far away from the "magical," yet elusive 2% Fed target. When we look at FRED (Federal Reserve Economic Data) from the St Louis Fed, headline inflation ex shelter is also running at less than 2.5% year on year. Note that the gap between headline CPI inflation and headline ex shelter is unusually large by historical measure:

Figure 6: Comparing headline CPI, shelter inflation and headline CPI ex shelter – year on year % change



Source: LSEG Datastream - Mar 24

To achieve the Fed's 2% inflation target, we would need to see either greater disinflation in the ex-shelter components (or even some deflation), or shelter inflation moderating much further. In the latter regard, owner's equivalent rent (OER) holds the key given its relative importance.

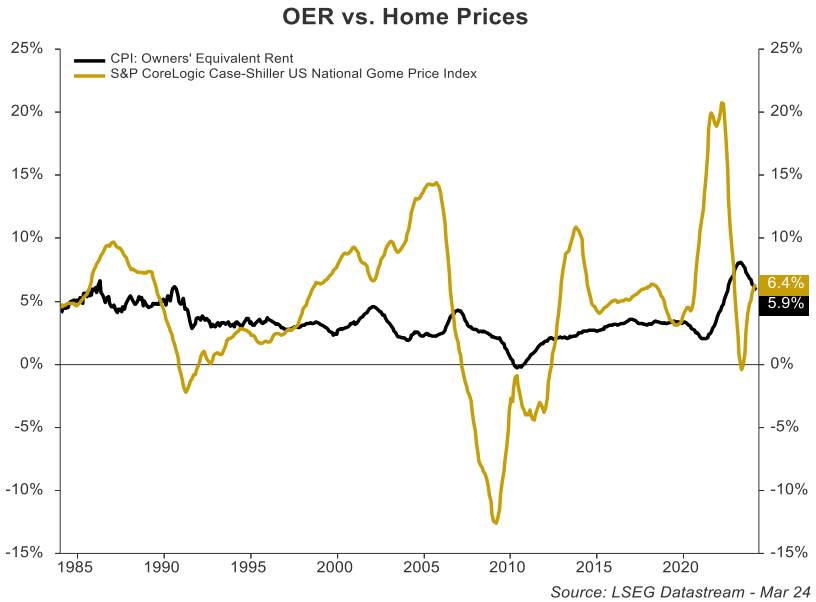
WHAT EXACTLY IS OER?

The US Bureau of Labor Statistics (BLS) does a survey once every six months of a sample set of properties across key representative metros in the United States. There are separate surveys for rental properties to those of owner-occupied units. In the latter case, the principle is that homes are a capital asset (i.e. not an expense) that deliver a service over a period to their occupiers (i.e. shelter) and that even for homes which are owned, we need to measure what the "imputed cost" of that service is. In this regard, the survey asks the basic question of homeowners:

> *"If someone were to rent your home today, how much do you think it would rent for monthly, unfurnished and without utilities?"*

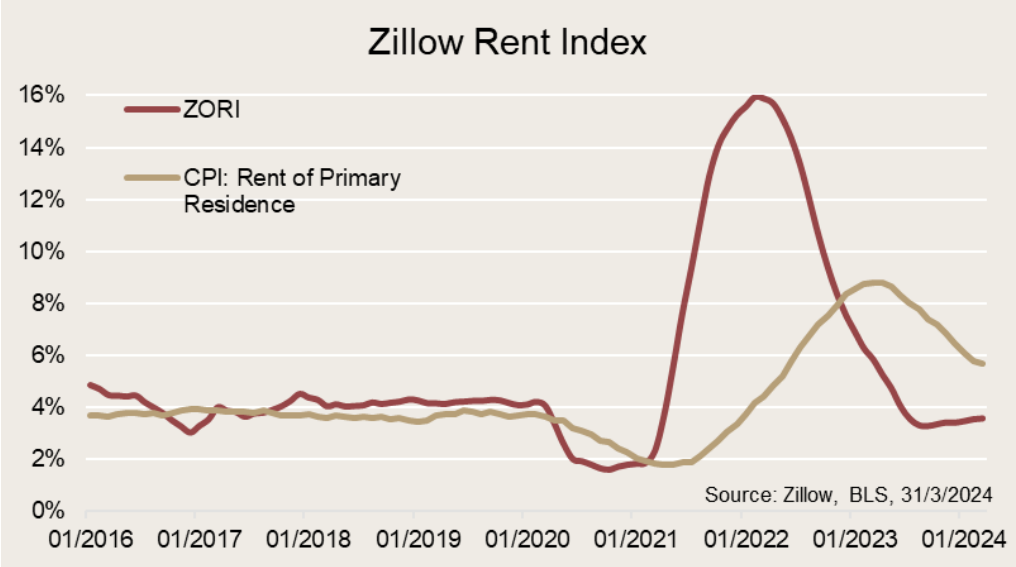
The survey then compiles composite data across the sample of homes used to arrive at the OER inflation estimate. It makes sense that the result of this question will be heavily influenced by what the value of the home in question will be. If house prices are rising, "imputed" rents are likely to be rising, and vice versa. The chart below plots year on year % change in OER against the year on year % change in the Case-Shiller US house price index. While there is not a particularly strong direct relationship, **changes in house prices tend to lead peaks and troughs in OER by about 12-18 months, on average**. OER inflation has already begun to moderate from its highs of April 2023 (year on year change in house prices peaked in March 2022), but it's likely that OER could moderate further given the lagged impact of a prior slowdown in house price gains.

Figure 7: Comparing the change in OER to house price inflation in the US



Much of the above discussion has centered on OER, but it's also worth mentioning that real-world measures of rental inflation appear to have already moderated to pre-Covid levels. The chart below compares inflation in the Zillow Observed Rent Index (ZORI) for all homes in US metros and cities against the CPI rent inflation data per the BLS. Notably, the inflation in ZORI peaked at much higher rates than CPI rent, but has now returned to pre-Covid norms – the Zillow index tends to lead changes in BLS data, so we should expect CPI rent inflation to continue to moderate:

Figure 8: Zillow Observed Rent Index vs CPI rent



If inflation in both OER and rent moderated to, say, the pre-Covid average of 3.5%, all else equal this would bring core CPI down from the current 3.8% to 2.8% - much closer to the Fed's 2% target. If the Fed were to cut policy rates, ***assuming the yield curve does not steepen*** (this is a big assumption and could be influenced by reflexive market views of whether a cut in interest rates would be pro-inflationary), the result could be lower mortgage rates, which would; 1) improve home affordability in the US, pushing many marginal renters into homeownership status, thereby alleviating upward pressure on rental rates; and 2) encourage would-be sellers to list their homes for sale (due to new mortgages costing less), improving the stock-to-sales ratio, rebalancing the supply side of the housing market and putting downward pressure on prices. By extension, a moderation in house prices would likely feed through to moderating OER inflation. These factors would cause measured CPI to moderate in the biggest services component of Shelter, which currently accounts for 2/3 of the year on year core inflation in the USA.

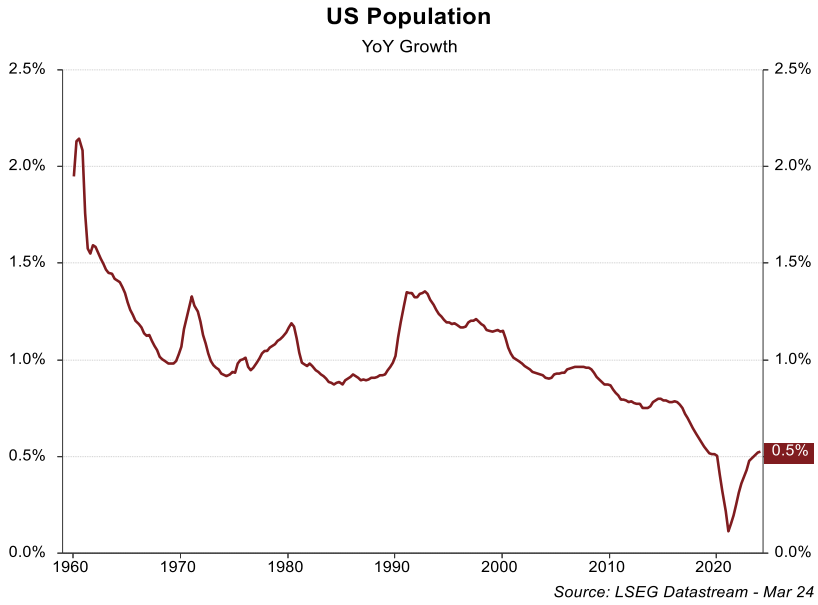
NEW HOUSING CONSTRUCTION SUPPLY VS. POPULATION DYNAMICS

The above discussion has largely focused on the dynamics of very low velocity of turnover of the *existing* home stock (due to high mortgage rates and many existing homeowners having rates much lower than the market 30-year mortgages) and the potential implications for house prices – largely in the larger, single family market segment. This is also where we are most likely to see the "natural" level of downsizing of older homeowners not taking place as historically may have been the case, thereby potentially distorting prices in this segment of the market.

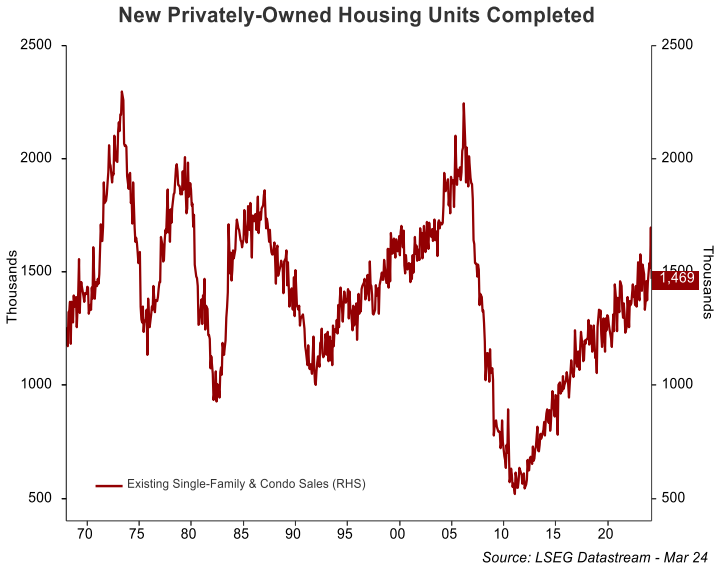
However, any discussion of the supply / demand dynamic for the US housing market would not be complete without touching on the issue of newly constructed home supply in relation to population growth dynamics.

Figure 9: US population growth – year on year % change

There are an estimated 336m people in the US today, up about 30m from 2008 levels. This translates into annualised population growth of around 0.6% per annum, albeit the run-rate growth is slightly lower today. According to the US Census Bureau, as of 2020 there were around 128m households in America, implying around 2.6 individuals per household on average. The number of individual housing units exceeds the household count due to second homes, but for simplicity we could assume that if the population is growing at 0.5% per annum, this would create incremental housing demand for a further ~1.7m individuals. Depending on how large a *new* "household" is (i.e. number of individuals), this could mean demand for 650,000-1m+ homes per year. While the average household in the US consists of 2.6 people, it would be fair to assume that the incremental new household would not likely commence with as high a ratio (i.e. two people typically have children after they have formed a household).



Between 2008 and 2023 (the starting point chosen deliberately due to the onset of the financial crisis and its impact on housing starts), new housing units completed averaged around 1m units per annum in the US, for a total of ~15m new units added. During this time frame, the US population grew by 30m individuals, implying around 11.5m new households (using a ratio of 2.6). What we also know is that the important figure in respect of housing is net new supply, after accounting for units that are lost to demolition or other issues (typically around 300-400k units per year lost to demolition).



Consequently, it appears that the US has added a ~600-700k *net* new units per annum since 2008, which likely falls well short of the annual growth in household formation. It is clear that this has created the very tight supply-demand dynamics we see today. To be clear, the *current* rate of housing construction is getting close to the right level to "clear the market" (1.4m+ units completed per annum), but much of this is needed to resolve the backlog created over many years post GFC (Global Financial Crisis).

CONCLUSION

In conclusion, given the dynamics in the US housing market and the current construct of the CPI basket, it is not a simple matter to conclude that higher interest rates will lead to lower measured inflation in a straight-forward way. The nuance of a tight housing market, "trapped" homeowners and a large forced rental population need to be considered carefully, and in this regard, the current monetary policy setting may even be counterproductive to bringing the so-called "sticky" components of inflation back down to target.

However, there is little doubt that additional monetary tightening which is **sufficient to result in a rise in the unemployment rate** would ultimately become disinflationary, as discussed above. Standard economic textbooks suggest that when people lose their jobs, they have to sell their house, and affordability for prospective buyers would worsen further. As a result, house prices would decline and this would reduce inflationary pressures in the housing market related components of CPI.

What this discussion illustrates is the difficulty of bringing inflation under control in a "soft landing" scenario. As long as the underlying economy remains strong, **the combination of higher interest rates and a resilient housing market act as a force that make the Federal Reserve's task even more difficult.**

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