Condensed Paper

Has the US housing crisis that never was become the housing boom no one expected?

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Introduction

In previous papers, we addressed the impact of the COVID recession on the US housing market, and mortgage finance, and parallels with the GFC.

We assessed whether despite the deep COVID recession in 2020, record employment losses, and legacy of the US sub-prime housing crash in the GFC, this was proving to be the “Housing crisis that never was.”

There appeared to be evidence this was the case, and taking it one stage further, we now consider whether after dodging a post-COVID housing crash, this has become “the US Housing boom that no-one expected?”

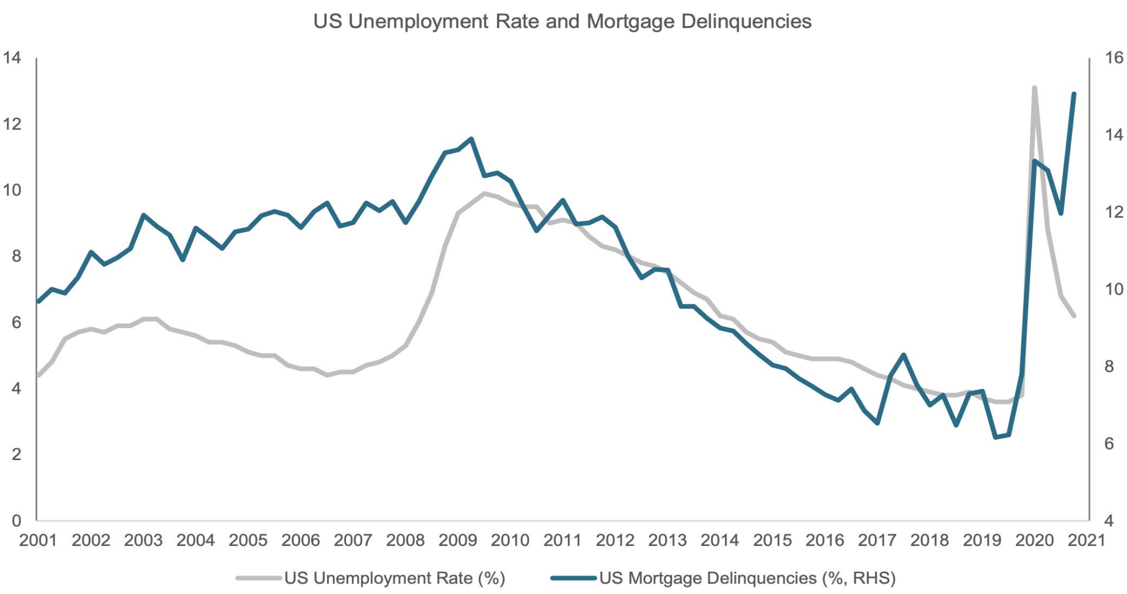
We find that in contrast to the global financial crisis, government support schemes restricted foreclosures and the market entered the COVID recession in supply shortfall, after land use regulation reduced housing supply.

Given the supply/demand imbalance, projections from our Yield Book House Price model suggest the market would withstand a 100-200 basis points increase in mortgage rates.

In financial crises, history often rhymes but rarely repeats itself…

Rapid US Fed intervention stabilized the US agency-RMBS market quickly in 2020, and the impact of the 2020 COVID recession has been more pronounced on commercial real estate than residential real estate, which provides the bulk of CMBS collateral1, as offices and shopping malls closed. Unlike the GFC, when the collapse in the sub-prime RMBS market became the epicenter of the crisis, RMBS has survived largely unscathed during COVID, after an initial wobble. In addition, foreclosure moratoriums helped break, and complicate, the strong historical link between unemployment rates and mortgage delinquency rates, as Chart 1 shows.

Chart 1: US unemployment rates and mortgage delinquencies

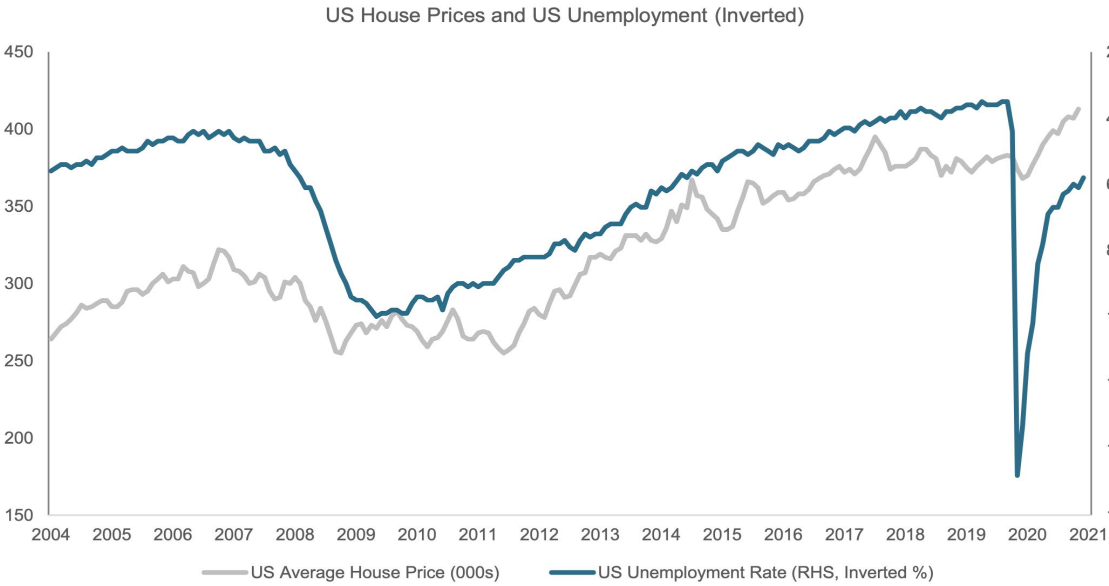


Source: Refinitiv, June 2021.

US house prices have also re-established their correlation with the unemployment rate, as the economy has re-opened in recent months, helped by the acceleration in the vaccine rollout, as Chart 2 shows.

[1] See "CMBS and the Fed…is there a crisis brewing in the office?" Robin Marshall & Luke Lu, November 2020, FTSE Russell.

Chart 2: US unemployment rate and house prices



Source: Refinitiv, June 2021.

2020 proved a year of two halves

Tighter lending standards and regulation since the GFC, and more homeowners with positive equity, meant the US housing market was more robust ahead of the 2020 recession than before the 2008/09 crash. However, in the first half of 2020 after the COVID shock, credit conditions tightened sharply, as Jumbo Near Prime underwriting standards became much stricter and non-qualifying mortgage (QM) origination disappeared. There was also a spike in lower credit quality mortgages entering forbearance and delinquency. This caused fears of a re-run of the GFC housing crash, even though the Fed had resumed its QE program, and mortgage prepayments briefly collapsed, but this proved very short-lived, as Chart 3 shows

Chart 3: RMBS agency prepayments

Source: Refinitiv, June 2021.

Continuing loan forbearance and government support programs softened the impact of Covid…

A number of factors have prevented a housing crash from developing in 2020/21, even as unemployment surged and regional Lockdowns of the economy occurred. Firstly, Fed QE enabled the agency-MBS market to continue functioning, and this kept mortgage rates at, or near, historic lows. Secondly, substantial government support for the troubled sectors in the housing market was implemented, through loan forbearance schemes, first introduced in March 2020. The Federal Housing Finance Agency (FHFA) has now extended these schemes to September 2021 (giving borrowers with federally insured loans 18 months of relief on mortgage payments since March 2020). Thirdly, the Department of Housing and Urban Development broadened the range of options for distressed borrowers, and mortgage servicers, to reduce foreclosures, and repossessions (which deepened the housing crash in 2008/09). Fourthly, US President Joe Biden made clear housing is part of his social justice agenda (like President Clinton before him, in the 1990s, with his support for sub-prime mortgages).

Thus, mortgage foreclosure and eviction moratoriums were extended quickly to March 31, 2021, on President Biden's election, and the "disparate impact rule of 2013" reinstated, preventing lenders from making background checks on criminals and credit worthiness. A first-time buyer tax credit of US$15,000 was introduced as well, to help buyers get onto the housing ladder. Both the Fed and US Treasury have also stressed unprecedented central bank and government support programs for housing will likely continue for as long as it takes the economy to recover.

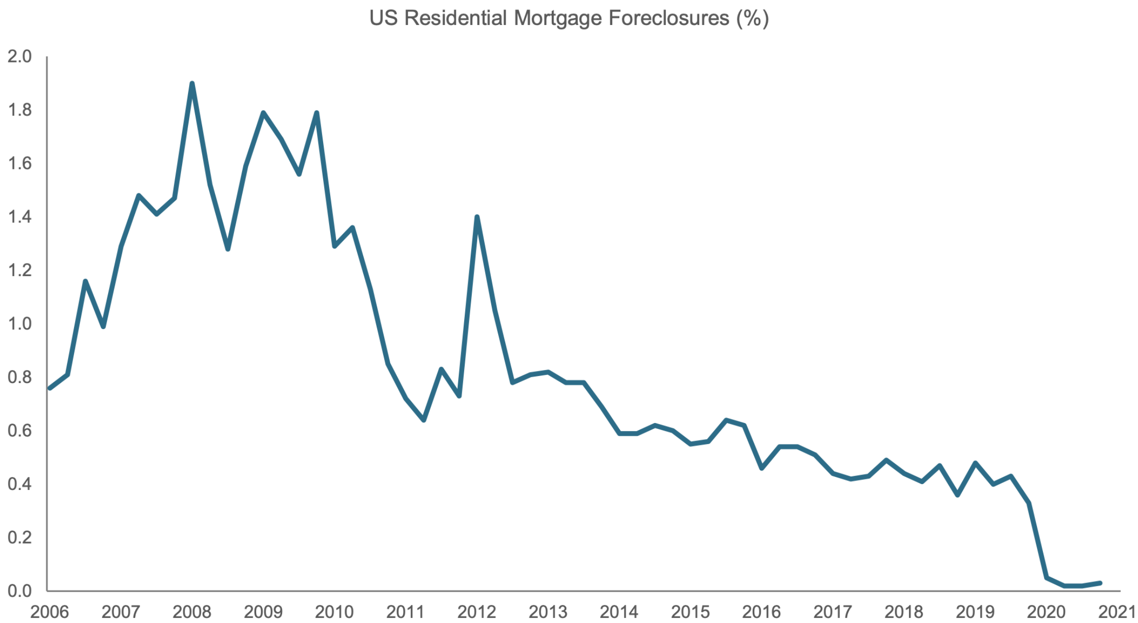
As a result of these support schemes for troubled sectors, credit deterioration has been reduced significantly. There is also evidence of forbearance curing in recent months, as the economy re-opens, borrowers resume payments, and risks of a major forbearance wave appear to have fallen. The housing market is now enjoying price appreciation, fast mortgage prepayment speeds and substantial support for the shrinking portion of the market in distress.

…and prevented US mortgage foreclosures spiking in the 2020 recession

Chart 4 shows the stark contrast between the spike in mortgage foreclosures during the GFC, as the sub-prime MBS crash unfolded and took the authorities by surprise, and the impact of loan forbearance programs in sharply reducing the foreclosures typical of a recession during the COVID shock. Indeed, more than 11 million US mortgages entered foreclosure at the peak of the GFC in Q2 2009 (about 1.47% of all mortgages), compared with only 0.03% of mortgages in foreclosure in Q2 and Q3 2020—the lowest rates ever recorded by the MBA[2]. Positive equity also means many borrowers could sell their homes to cover the repayments, if all else fails, unlike the GFC when many mortgage borrowers were in negative equity.

[2] See "How many mortgage foreclosures is forbearance preventing?" St. Louis Fed on the economy blog, William R. Emmons, December 2020.

Chart 4: US mortgage foreclosures collapse—a stark contrast with the GFC



Source: Refinitiv, June 2021.

Foreclosures could still spike but share of sub-prime mortgages fell sharply

Of course, the risk of a sharp rebound in mortgage foreclosures remains when forbearance programs finally end, and forbearance is not a permanent solution to mortgage distress. Much will depend on the strength of the economic recovery, and particularly how closely the US labor market returns to pre-COVID levels of employment. But transition rates from mortgage delinquency to full-blown foreclosure have fallen, as the structure of the mortgage market has changed, underwriting standards improved and the proportion of sub-prime and other non-traditional mortgages has fallen sharply.

… causing transition rates from delinquency to foreclosure to decline

This transition rate from mortgage delinquency to foreclosure was 23% in the period 2009-2019, compared with 52.6% during the period 1989-2008[3], and had fallen to only 0.8% in 2019, pre-Covid. Ceteris paribus, improved underwriting standards and less sub-prime mortgages reduce this transition rate. Another complexity in predicting transition rates is that not all mortgage borrowers in forbearance programs have mortgages that are delinquent, and vice versa. Therefore, some borrowers appear to have entered forbearance programs as a precaution, while still continuing mortgage repayments (about one in six of loans in forbearance programs [4]). This may help explain why there are recent signs of mortgage forbearance curing, as some borrowers exit forbearance programs.

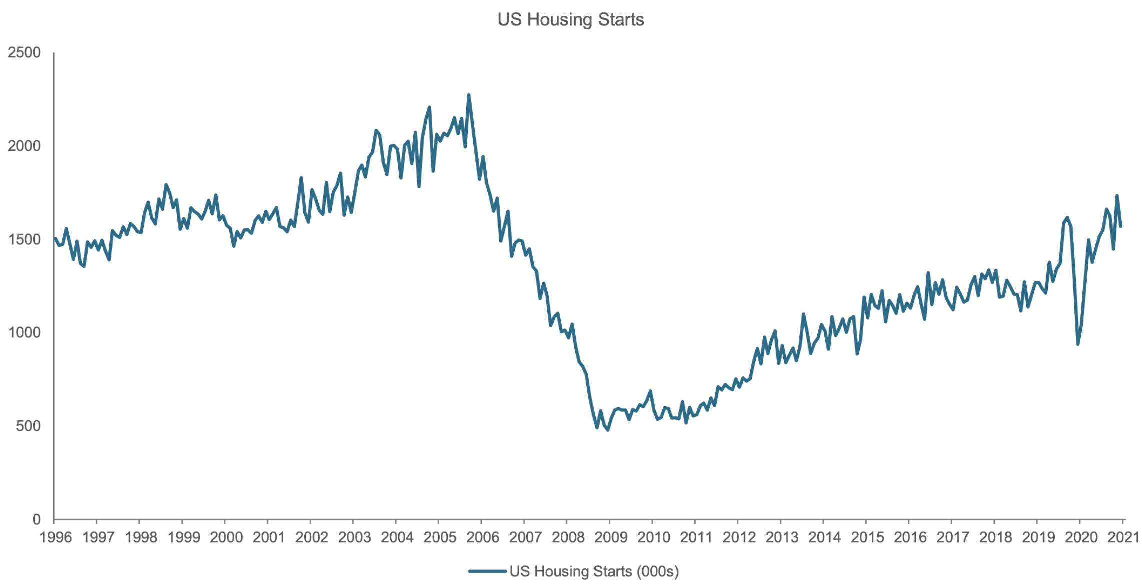
[3] Mortgage Bankers' Association data.

[4] See "The changing structure of mortgage markets and financial stability", Michelle W.Bowman, Federal Reserve Governor, speech November 2020.

Planning restrictions on land use reduced US housing starts and inventory

In addition, there is evidence planning restrictions on land use—which are controlled at the local level—contributed to lower US housing starts and stronger US house price gains in the years before the COVID shock. Gyourko and Molloy[5] found substantial effects on the housing market from land use regulation, including that it raised house prices, and reduced construction and the elasticity of housing supply. They also found real construction costs had been broadly flat for 30 years, and that reduced elasticity in housing supply was largely due to increasing land use regulation. In addition, in locations where new build is made difficult by regulation, capital may flow instead to upgrade existing properties, resulting in higher rents without increasing property supply[6]. Reflecting this reduced elasticity in housing supply, US housing starts have never recovered to the levels reached in 2005/06, as Chart 5 shows.

Chart 5: The pace of US housing starts has yet to recover to pre-GFC levels



Source; Refinitiv, June 2021.

These factors have led to a sharp reduction in housing inventory at the national level. According to the National Association of Realtors, total housing inventory had fallen to 1.07 million units at the end of March 2021, down 28% from March 2020, and close to the lowest levels seen since the series began in 1982.[7]

US housing has failed to keep pace with population growth…

Another aspect of this low inventory is that housing supply has not kept pace with population growth. If the relationship between housing supply and population growth that prevailed before the GFC had continued in the years after the GFC, another 3.7 million homes would have been

[5] Joseph Gyourko and Raven Molloy – Regulation and Housing Supply, NBER Working paper 20536, October 2014.

[6] See "Who's to blame for high housing costs. It's more complicated than you think" – Jenny Schuetz, Brookings Report, January 17, 2020.

[7] National Association of Realtors housing report, April 2021.

supplied to the market. Housing data from the US census is a relatively new measure, starting in 2000. We can only look back seven years from the peak of the housing boom immediately preceding the GFC. But Table 1 shows that from 2000-Q4 to 2007-Q4, there were 0.65 new homes for every additional person. That has fallen to 0.51 new homes for every additional person over the seven years prior to 2020 (just before the pandemic) and is a way of measuring the supply shortfall. In their own research, Freddie Mac estimated a housing supply deficit of 3.8 million units[8].

Table 1: Housing and US population growth

	Housing	Population	New Homes / per Pop growth
2000-Q4	116914	286086	
2007-Q4	129634	305403	65%
2012-Q4	133069	317055	
2019-Q4	140074	330692	51%

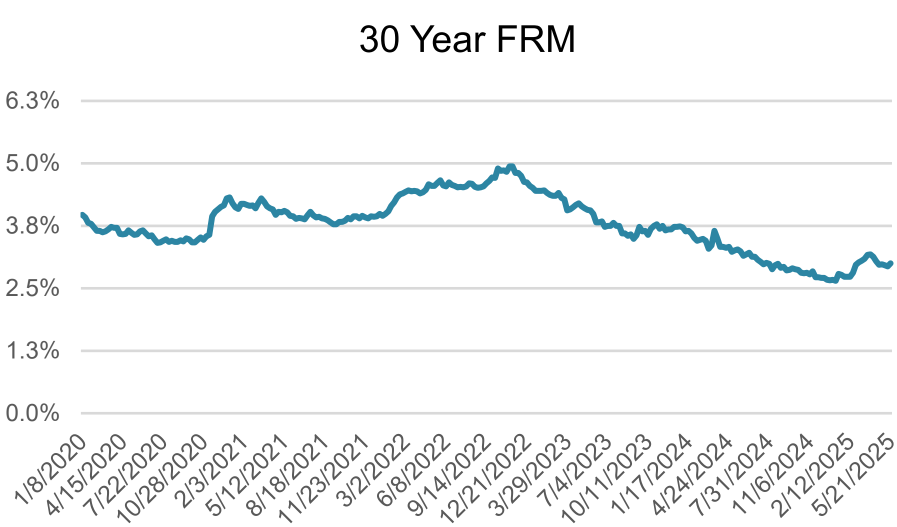
- Housing from US Census - https://fred.stlouisfed.org/series/ETOTALUSQ176N

- Population from BEA - https://fred.stlouisfed.org/series/POPTHM

...and combined with low rates to create a perfect storm for house price gains

Meanwhile, on the housing demand side, although mortgage rates have crept up from the 2020 lows, in response to the increase in 10-year US Treasury yields, mortgage rates remain near historic lows, as Chart 6 shows.

Chart 6: US mortgage rates remain near historic lows



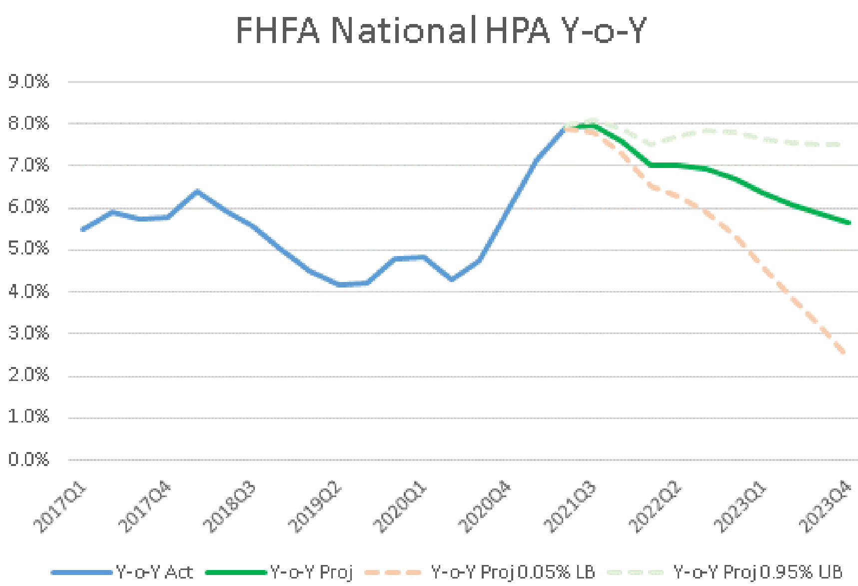
Source: Freddie PMMS.

[8] http://www.freddiemac.com/research/insight/20210507_housing_supply.page.

Rapid, and substantial, Fed QE purchases of agency-MBS have also prevented a re-run of the dysfunctional MBS market in 2008/09.The combination of low US housing supply elasticity (with inventory near record lows), mortgage rates close to historic lows, and housing market support from loan forbearance programs since March 2020, and Fed QE, has created a perfect storm to push house prices higher. It is perhaps unsurprising, given this backdrop, that projections from our MSA level HPA model predict strong house price momentum may continue.

Chart 7 shows US house prices never actually fell after the Covid shock, but only stalled, and that house price appreciation (HPA) y/y has picked up steadily since, now running near an 8% annual growth rate as of the latest 2021Q1 data point. Indeed, the Yield Book MSA level House Price Appreciation Model projects sustained strong National HPA growth through 2021 and then trends back to the long run average of ~5% Y-o-Y growth by the end of 2023 (5% and 95% confidence bands are included for the projections).

Chart 7: Projections for US house prices

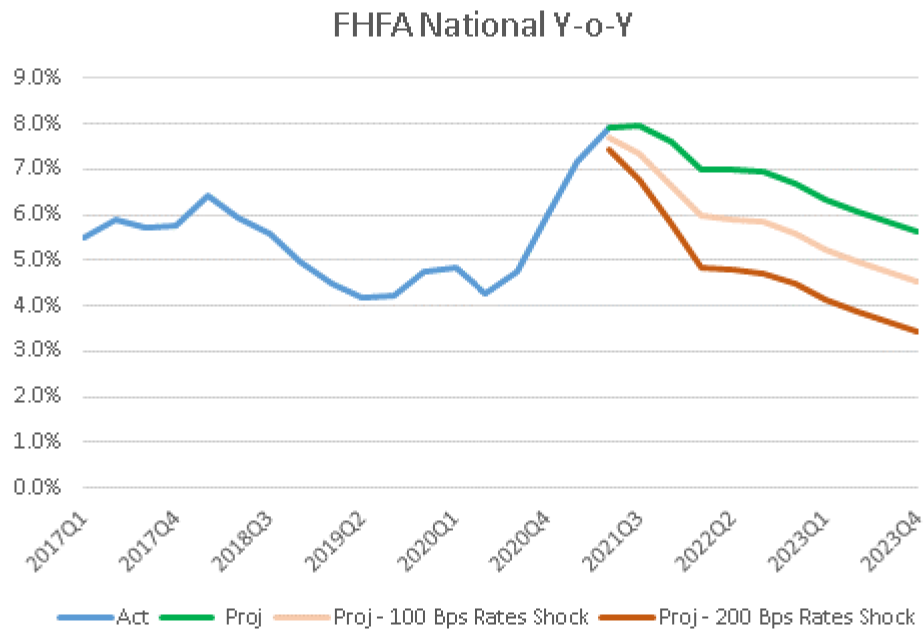


Source: FTSE Russell, June 2021

Our Yield Book house price model suggests housing market can withstand 100-200bp rate shocks

Turning to model-based projections of house prices, lower interest rates lead to more mortgage affordability and encourage more home buying and refinancing activity, ceteris paribus. In general, this will put upward pressure on prices. The Yield Book MSA level House Price Appreciation Model incorporates mortgage rates and captures this relationship in its dynamics. For our base case, we project rates to trend back to average pre-Covid levels by the end of 2022. In Chart 8, we present projections run under two rates shocks to our base case: up 100bps and 200bps. The impact and magnitude follow along the anticipated trajectory. Thus, even a 200 basis points increase in mortgage rates fails to prevent house price appreciation in 2022/23, given these strong underlying housing market fundamentals, including the supply shortfall.

Chart 8: Projections for US house prices with 100 & 200bps mortgage rate shocks



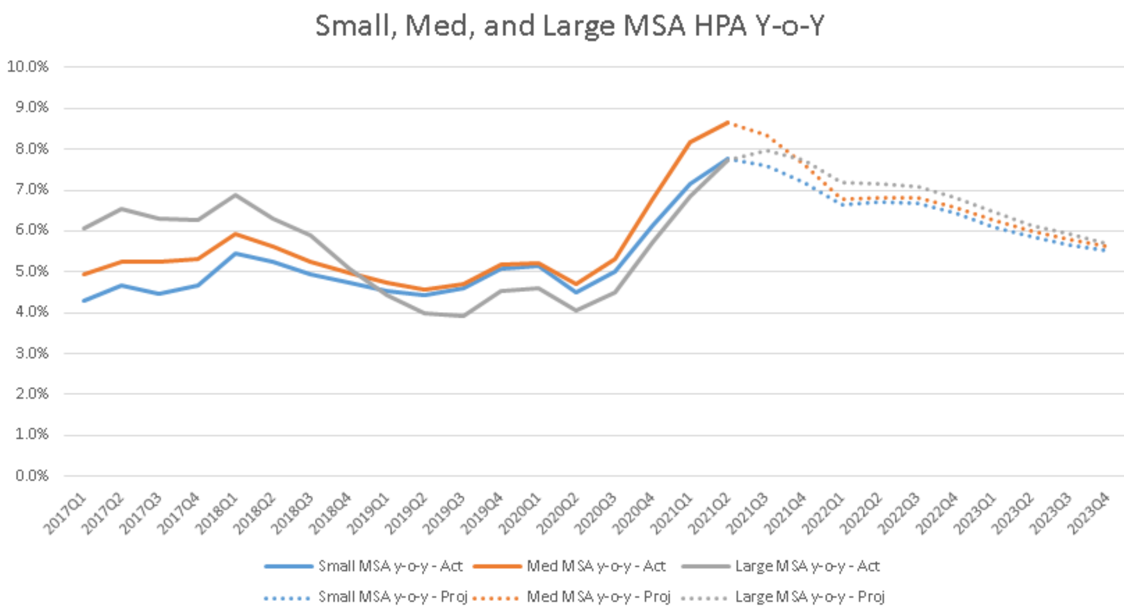
Source: FTSE Russell, June 2021.

And, at the sector level, house prices suggest a post-COVID move away from large cities

At a more disaggregated level, in the traditional cycle, medium sized population MSAs (Metropolitan Statistical Areas) tended to sit in between small and large MSAs in terms of HPA (House Price Appreciation) growth and decline. In Chart 9, MSAs are classified into three groups, based on population size: Small at 0-500k, Medium at 500k-1.25m, and Large at 1.25m+. The Chart shows that from 2018-20, the housing market had slowed and HPA growth had fallen below the long run average of about 5% annual gains.

Starting in Q2 2020, however, there is evidence of a rapid turnround in the market and a strong rebound in house prices. Typically, HPA growth in large MSAs accelerates fastest. This time around, in the COVID-cycle, however, there is evidence of medium sized MSAs growing fastest, consistent with migration from large urban metropolises, to medium sized cities supported by large suburbs. This shift may have been underway pre-COVID but accelerated by the pandemic and the sudden need for more living space and physical separation. This raises the intriguing possibility that there may be a true paradigm shift in train, in the US housing market, away from large urban metropolitan areas to medium sized cities, unless this is a COVID-related distortion. But a full cycle will be required to draw firmer conclusions on these patterns, and possible regime shift.

Chart 9 Medium sized MSA’s are Outperforming



Source: FTSE Russell, June 2021.

Conclusions

Continuing loan forbearance and government support programs broke the link between unemployment and foreclosures, and drove US mortgage foreclosures to record lows.

Part of the legacy of the GFC was rapid Fed QE and agency-MBS support, which quickly reversed house price weakness after the 2020 COVID-shock.

The combination of mortgage rates at, or near, historic lows, and restricted housing supply has driven robust US housing price gains.

Planning restrictions and land use regulation have also constricted US housing supply, since the 2000-07 boom, and left the housing market facing supply shortages.

As a result, our model projections suggest the US housing market would be able to withstand a shock of 200bp higher mortgage rates without price gains reversing.

In disaggregated data, there is early evidence of a post-COVID move away from large cities to medium sized cities, supported by large suburbs.

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