Housing and Mortgage Market Review

HaMMR – Spring 2021

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Housing in 2021: A 2018 Redux?

With 2020's final figures now available, we can summarize the year as one of high demand for housing, along with a record-low level of supply that led to unprecedented home-price growth.

- According to the National Association of Realtors® (NAR), there were 5.64 million existing homes sold in 2020 — 300,000 more than in 2019.
- Also according to the NAR, the non-seasonally adjusted inventory of existing homes for sale at the end of December 2020 was 1.06 million, compared to 1.39 million at the end of December 2019.
- The combination of strong home sales and low inventory meant the year ended with a seasonally adjusted 2.3 months' supply of existing homes, a record low until January 2021 came in even lower at 2.1 months.
- According to the Federal Housing Finance Agency (FHFA) Purchase-Only Index, home prices grew 10.8% from Q4 2019 to Q4 2020.

Even in light of strong home-price growth, affordability remained in check due to falling interest rates. As measured by the Freddie Mac Primary Mortgage Market Survey (PMMS), the 30-Year Fixed-Rate Mortgage (FRM 30) fell from 3.72% at the start of the year to 2.67% by year's end. The combination of rising home prices and falling rates meant that affordability in terms of monthly mortgage payments changed little over the year.

(continued on page 3)

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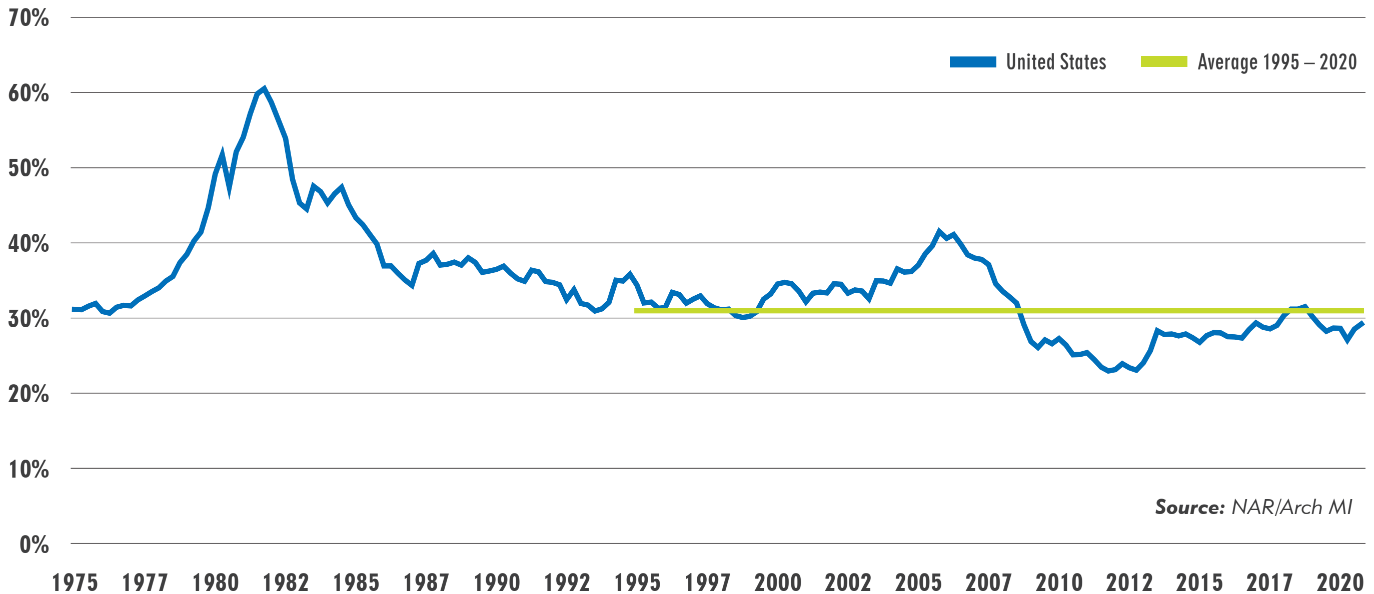
Housing in 2021: A 2018 Redux? *(continued from page 1)*

The Hypothetical Median Debt-to-Income ratio[1] (median DTI), our measure of affordability, was only 29.2% in Q4 2020 as compared to 28.6% in Q1, still below the average of 31% from 1995 to 2020 (see Figure 1).

Figure 1: Hypothetical Median Debt-to-Income Ratio



While falling rates were a key part of the housing story in 2020, we have seen rates starting to move up in the opening months of 2021. As of April 1, the FRM was up to 3.18% and expectations are for rates to continue to rise throughout the year. If low rates were one of the drivers of the 2020's strong housing performance, what could higher rates mean for 2021?

Where Could Affordability Go in 2021?

We can use our median DTI measure to understand what higher rates could mean for affordability. Median DTI would rise if one or both of the following were to occur:

- Median home-prices growing faster than incomes.
- Interest rates increasing.

So, what changes in interest rates or home price growth would we need to see for affordability to return to 31% — the average level for 1995 through 2020 — or to 33%, which is where we stood in 2001 prior to the housing crisis?

- Assuming home prices and incomes grew at the same rate as each other through 2021, interest rates would have to reach 3.4% for the median DTI to rise to the long-term average level of 31%. They would have to increase to 4.1% for a 33% median DTI.
- However, if home prices grew faster than incomes (as we saw in 2020), these rates would be lower. If home prices grew two percentage points more than incomes through 2021, we would reach a median DTI of 31% with mortgage rates at 3.2% and a median DTI of 33% with a rate of 3.87%.

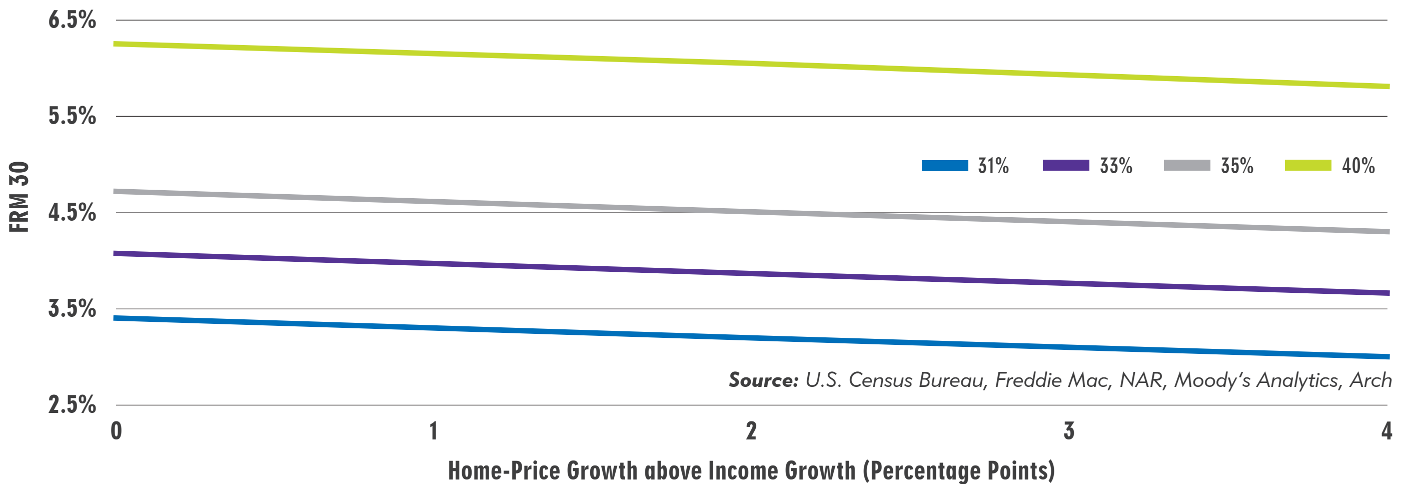
[1] *Calculations are based on pre-tax median household income, a 10% down payment, escrow of annual expenses of roughly 1.75% of the initial home price (for insurance and property taxes, which we vary by state), and the prevailing 30-year fixed rate, plus 0.75% to cover mortgage insurance and risk add-ons.*

(continued on page 4)

Housing in 2021: A 2018 Redux? *(continued from page 3)*

Figure 2 shows the relationship between FRM 30 and median DTI for different levels of home-price growth. Each line represents the combination of home-price growth above income growth and FRM 30 that results in a particular median DTI level. The graph reveals that even if home prices grew 4% more than incomes, we are a long way from having rates of 5.8%, which would lead to the levels of affordability (40% median DTI) seen in the last crisis.

Figure 2: Impact of Changing FRM 30 Rates and Home-Price Growth on Median DTI

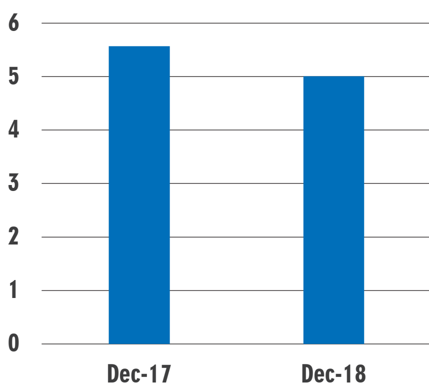


Source: *U.S. Census Bureau, Freddie Mac, NAR, Moody's Analytics, Arch*

How Has Affordability Returning to the Long-Term Average Previously Impacted the Housing Market?

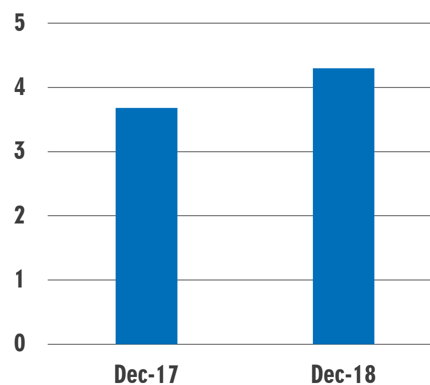
Luckily, we only need to look back to 2018 to see what happened when rising interest rates returned affordability to the long-term average. In Q4 2017, the FRM 30 rate averaged 3.92% and over the next year rose to 4.78% by Q4 2018. These rising rates pushed the Median DTI from 29% to 31.5% (see Figure 1). Looking at Figures 3, 4 and 5 (the rate of home sales, months' supply and year-over-year home price changes), we can see this decrease in affordability really only resulted in a slight tap on the brakes for the housing market.

Figure 3: Existing Home Sales (millions, SAAR)



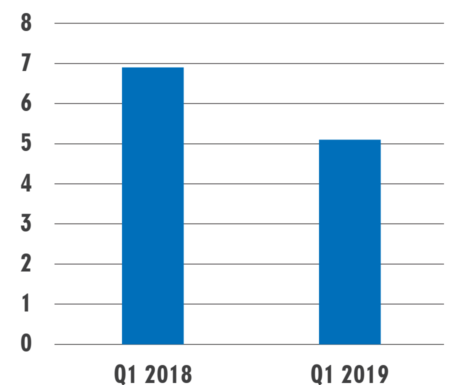
Source: *NAR, Moody's Analytics*
SAAR *= Seasonally Adjusted Annual Rate*

Figure 4: Months' Supply of Existing Homes for Sale



Source: *NAR, Moody's Analytics*

Figure 5: Annual Home Price Appreciation (%)



Source: *FHFA Purchase-Only Index*

Home sales dropped from a seasonally adjusted annual rate of 5.6 million in December 2017 to 5 million, for a total sales volume of 5.34 million in the year. Months' supply increased from 3.7 months to 4.3 months on the back of slower home sales. This slowing of sales and increased supply caused annual home-price growth to fall from a local peak of 6.9% in Q1 2018 to a still very healthy 5.1% in Q1 2019.

What Could This Mean in 2021?

To answer this question, we can use the 2018 experience as a guidepost. Let us imagine 2021 plays out like 2018 in that affordability decreases as median DTI rises, and that this lower affordability turns off some potential buyers. Let us also imagine that sales drop back to 5.34 million existing homes per year, as was seen for the full year 2018 and also in 2019. Finally, let's assume the number of homes listed grows at 110,000 per year as was seen between 2019 and 2020. If this scenario were to play out, we would see the inventory of existing homes for sale only increase by 80,000 in 2021 (see Figure 6).

Figure 6: Impact of Home Sale Volumes on Inventory and Months' Supply[2]

	HOMES SOLD ('000s)	HOMES LISTED ('000s)	CHANGE IN INVENTORY ('000s)	MONTHS' SUPPLY (DECEMBER, SA)
2019	5340	5200	-140	3.5
2020	5640	5310	-330	2.3
2021	5340	5420	+80	3.0
2022	5340	5530	+190	3.4

[2] *Includes Single-Family, Condos and Co-ops.*

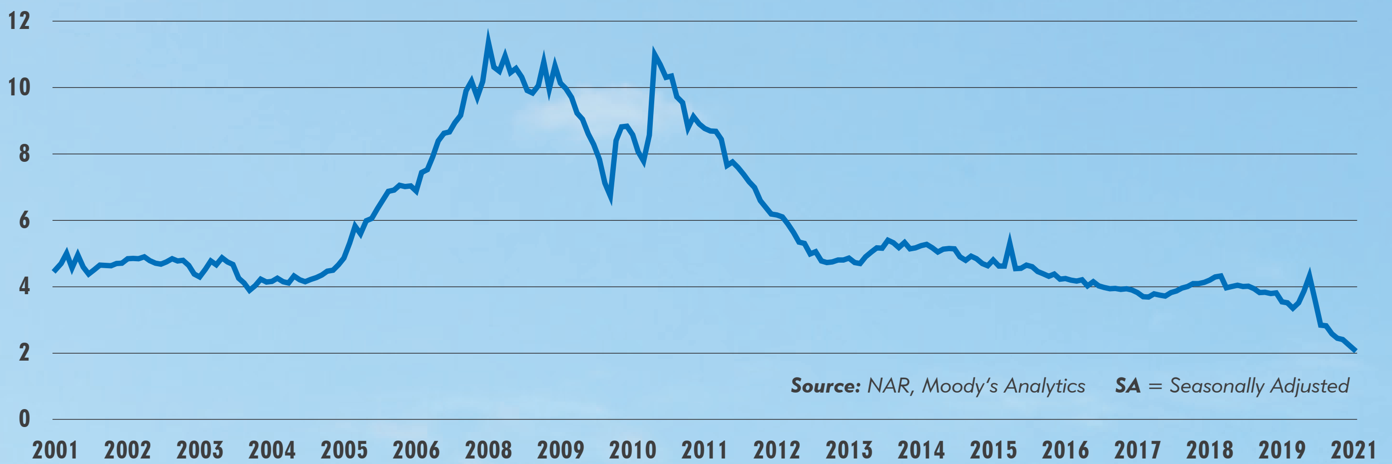
(continued on page 6)

Housing in 2021: A 2018 Redux? *(continued from page 5)*

If we were to play this scenario forward in 2022 with the same number of sales and listings still growing, the inventory of existing homes for sale would still only grow by 190,000 in the year. (Note: The 2021 and 2022 numbers are not our forecast for these years but are meant to show the impact on supply if this were to happen to annual sales and listings.)

On the back of a reduced rate of sales and increasing inventory, as new listings are greater than sales, we would start to see months' supply also increase. In this example, months' supply would increase to 3 months by December 2021 and 3.4 months by December 2022. It is notable that this December 2022 level of months' supply is similar to the 3.5 months we saw in December 2019 (i.e., where we were just before the pandemic) and is still lower than any level prior to 2020 (see Figure 7) — showing just how undersupplied the market is today.

Figure 7: Months' Supply: Existing Homes (SA)[3]



[3] *Numbers for 2019 and 2020 Homes Listed are derived from the number of homes sold and change in inventory over the year.*

In summary, while a rising interest rate environment in 2021 will be a headwind for housing in the same way that falling rates were a tailwind in 2020, the magnitude of that headwind shouldn't be overstated. We entered 2021 with three key factors that should counter rising mortgage rates putting too much pressure on the housing market:

1. A massive undersupply of existing homes for sale.
2. New construction still below the levels we were at prior to the Great Recession.
3. The Millennial cohort, the largest demographic group in the country, at prime homebuying age.

Consequently, a much more likely outcome of rising rates would be something akin to a replay of 2018, with rising rates combining with pandemic-driven housing demand subsiding to push down sales. If this were to play out we could expect a slow return to long-term average levels of affordability, a slow movement back towards a more balanced supply and demand dynamic, and a moderation in home-price growth. A scenario such as this would be welcomed by many who see a deceleration of home-price growth from 2020 levels, while still remaining positive, as likely to help market prices not get too far removed from fundamentals.

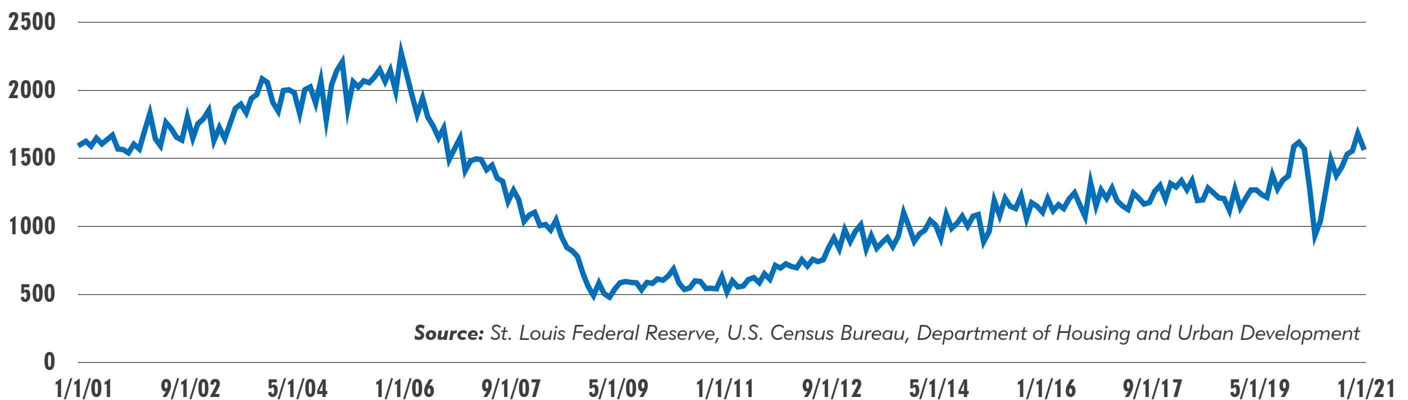
American Dream at a Crossroads

Finding the Political Will to Fix the Housing Shortage

by Kirk Willison, VP-Government and Industry Relations, Arch MI

"Where Have All the Houses Gone?" asked a recent New York Times headline, adding that much of the housing market has gone missing. The article noted that the pandemic is one reason for the shortage, but the situation has been a long time in the making.

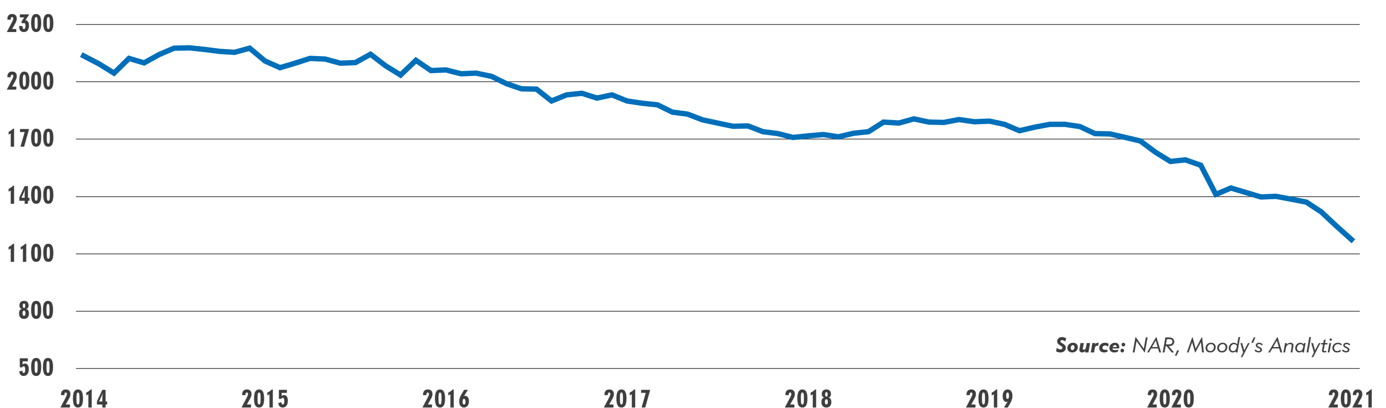
Figure 1: New Privately Owned Housing Starts ('000s, SAAR)



The problem can be seen in a tale of two charts. Figure 1 tracks housing starts over the past 20 years. At its pre-crisis peak, housing starts averaged nearly 1.8 million over the five-year period 2003–07 before plummeting to fewer than 600,000 units at the depth of the Great Recession. While annual starts are on an upward swing since then, we haven't kept up with household formation, so demand now far exceeds supply.

Figure 2 shows how the number of homes for sale has declined annually since 2014, marginally each year until 2020, when it sank precipitously.

Figure 2: Existing Homes for Sale[1] ('000s, SA)



Explaining the reasons for our housing shortage is a more complex story and a challenge that must be addressed by the nation's policymakers at all levels of government, starting at the local level but including state and federal officials, too. Left unaddressed, the ramifications are likely to be perilous to both the nation's economic and socioeconomic well-being.

[1] *Includes Single-Family Homes, Condos and Co-ops.*

Housing inventory fell 26% in January 2021 compared to the year before while **home prices soared 10% over the same period.** The gaping chasm in the rate of homeownership between white and minority households (over 30% for Blacks and roughly 25% for Hispanics) will expand rather than contract without the creation of more homes, particularly at the entry-level segment of the market.[2]

As the New York Times noted, during the pandemic many homeowners have been reluctant to list their homes. But there are additional reasons that the housing market has shrunk compared to previous economic cycles.

Americans are staying in their homes longer. There are a few reasons for this:

- The Baby Boomer generation is "aging in place" longer than previous generations. But another reason is that new homes on average kept getting larger — at least from 1999 (about 2,200 square feet) to 2015 (2,700 square feet) — so growing families aren't outgrowing their homes as frequently as in years past.[3] By comparison, the average-sized home built in the post-World War II community of Levittown, New York, was 750 square feet.[4]
- Nearly 4 million of owner-occupied homes were converted to single-family rental properties after the recession.[5] Most of those homes remain rentals and off the for-sale market.
- Zoning and land-use restrictions tend to reduce the number and types of homes that can be placed on lots.

[2] *"Reducing the Racial Homeownership Gap," Urban Institute (https://www.urban.org/policy-centers/housing-finance-policy-center/projects/reducing-racial-homeownership-gap)*

[3] *https://www.census.gov/construction/chars/ (U.S. Census Bureau's Characteristics of New Housing)*

[4] *Rybczynski, Witold, "The Pioneering 'Levittowner'" (https://realestate.wharton.upenn.edu/wp-content/uploads/2017/03/556.pdf)*

[5] *https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_State_of_the_Nations_Housing_2018.pdf*

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American Dream at a Crossroads *(continued from page 9)*

One reason the size of new houses grew (they've tapered off slightly with the average falling to 2,475 square feet at the end of 2020) is that developers and homebuilders find it difficult to earn a profit on smaller units. With **regulatory costs exceeding $80,000 on the construction of a typical new home**[6], builders have skewed toward constructing larger, more expensive houses. A dearth of homes at the smaller, entry-level size closes the door on homeownership for many want-to-be, first-time homebuyers, a growing share of whom are minority households.

The solution, of course, is to build more homes. And there is bipartisan support for doing so. Back in 2018, the New Democratic Coalition in the House of Representatives issued its report, **"Missing Millions of Homes,"** in which it urged policymakers to focus on addressing the "Four Ls" of construction: Land, Lumber, Labor and Loans.

"Zoning and land-use restrictions include height limits, minimum lot sizes, parking requirements and historic preservation. These are imposed by cities for all manner of reasons, but the effect on housing is always the same: to limit the number of homes that can be built on any given area of land," concluded the study prepared by moderate Democrats.

Lumber prices reached an all-time high this year, propelled upward by both demand and 20% tariffs on soft wood imported from Canada. According to Robert Dietz, Chief Economist at the National Association of Home Builders (NAHB), "Lumber prices are up by about 200% since April, driven by shortages and high demand. This has added about $24,000 to the price of a new home at a time when interest rates are also rising."

Labor shortages are driving up both the cost and the time to build homes. More than 73% of builders report shortages of carpenters and framing crews and 60% of builders report shortages of brick masons and cement masons directly employed by their firms, **according to data collected by the NAHB**. A significant contributor to the problem is a decline in immigrant labor, which comprises 24% of the industry's labor force and an even higher 30% of its tradesmen. Immigration reform is critical to solving the labor shortage.

Builder access to bank loans for acquisition, development and construction (AD&C) was sharply curtailed by bank regulators after the housing crash and restrictions have remained in place despite improved economic conditions.

Republicans have weighed in on the crisis, too. Just before leaving office in January, the **Trump administration's Department of Housing and Urban Development published a report** after a year-long look into how local, state, tribal and federal governments can eliminate barriers to affordable housing.

[6] *Emrath, Paul, "Government Regulation in the Price of a New Home," May 2016. (https://www.nahb.org/-/media/NAHB/advocacy/docs/industry-issues/land-use-101/regulatory-barriers/government-regulation-affects-price-of-new-home.pdf)*

"Increasing the supply of housing by removing overly burdensome rules and regulations will reduce housing costs, boost economic growth, and provide more Americans with opportunities for economic mobility," it concludes. "In the wake of the COVID-19 pandemic, many longstanding patterns may change in response to different housing preferences, greater acceptance of teleworking, and new social practices. HUD recognizes the potential disruption of long-term trends may require local governments to adjust policies and practices to respond to changes in housing demand."

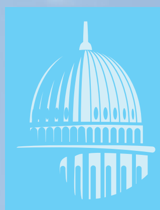
It acknowledges that the "greatest drivers of supply occur at the local level. State and local governments must solve the specific challenges in their housing markets."

Last month, the U.S. Senate's Banking, Housing and Urban Affairs Committee held a hearing titled, "Home = Life: The State of Housing in America," where Edward DeMarco, Executive Director of the Housing Policy Council, summed up the challenge and made a plea to policymakers:

"As an economic principle, unmet demand should lead to higher prices and higher prices should induce more supply. However, building housing in most communities requires navigating a labyrinth of approvals, restrictions, and building requirements. The combined effect of these requirements is that fewer houses are built and the ones that are built are higher-cost properties.

"The solution to this problem is simple, but politically complex; It primarily requires thousands of local jurisdictions to evaluate land use restrictions, zoning laws, building codes, and other requirements to ensure that home construction is encouraged, not discouraged," he testified.

Ed Gorman, Chief Community Development Officer for the nonprofit National Community Reinvestment Coalition, summed up the nation's dilemma in a recent presentation to Arch MI customers: "No one dreams of being a renter." But the American dream of homeownership is at a crossroads for many families. Everyone knows we need more homes. Who has the will to make it happen?



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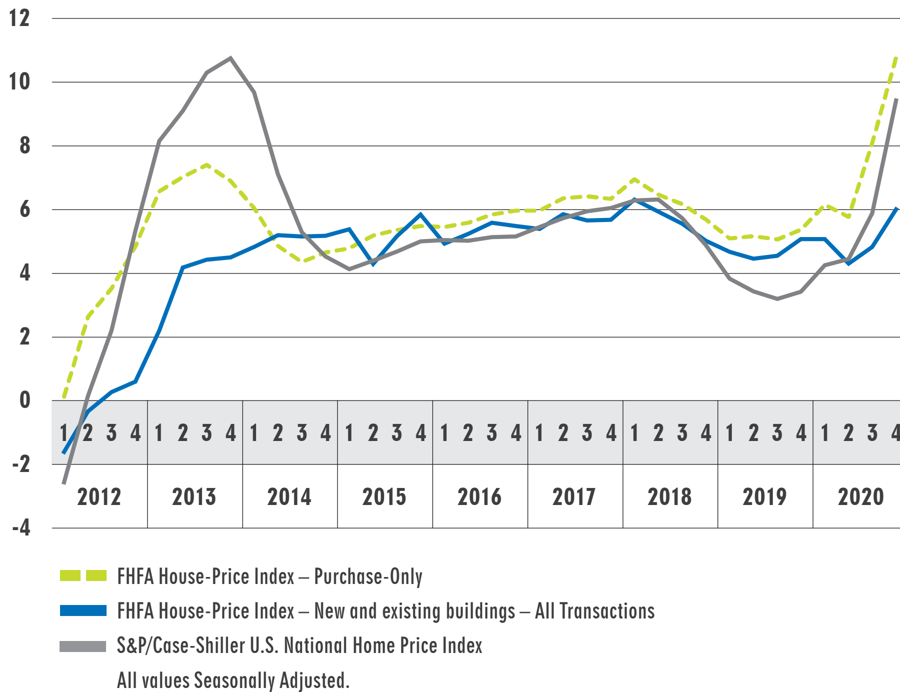
Housing and Mortgage Market Indicators

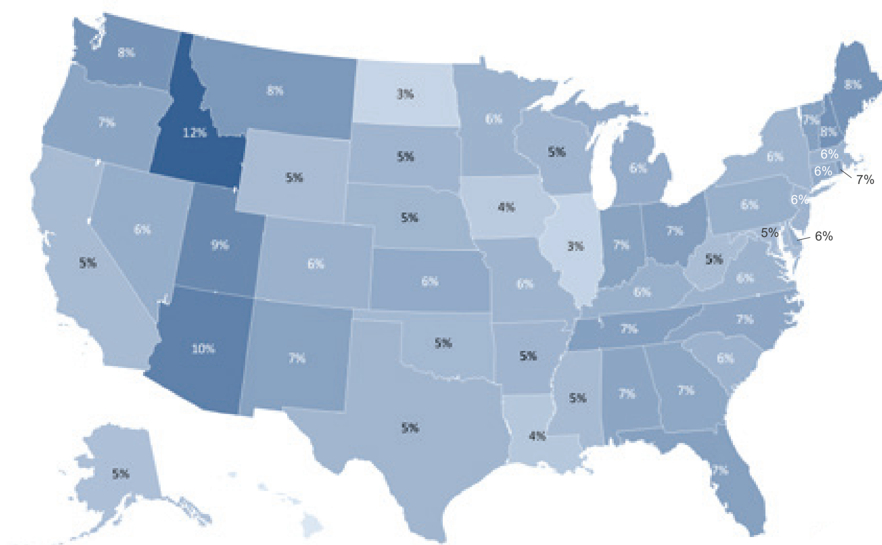
YEAR-OVER-YEAR PERCENTAGE CHANGE IN HOME PRICES



National home prices continue to grow. Home-price growth in Q4 2020 continued to be very strong across all three indices, with the FHFA Purchase-Only Index up 10.8% year-over-year, leaving 2020 as its strongest quarter on record. These home price indicators differ in methodologies and data sources (i.e., the FHFA only uses GSE loans, while the Case-Shiller index includes many jumbo and other types of loans).

Sources: *CoreLogic Case-Shiller/FHFA/ Moody's Analytics/Arch MI*

YEAR-OVER-YEAR PERCENTAGE CHANGE IN HOME PRICES

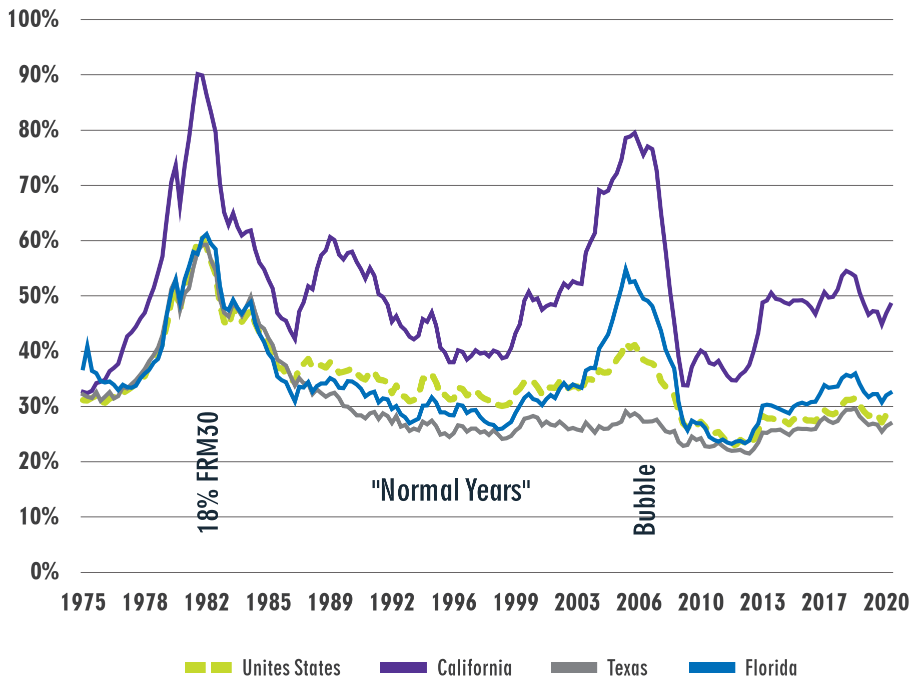


Home prices are up in all 50 states over the past year. The fastest growth in home prices was once again in Idaho, Arizona and Utah. The slowest growth was in Hawaii, North Dakota, Illinois and Washington, D.C. Data represents percent growth from Q4 2019 to Q4 2020.

Sources: *FHFA All-Transactions HPI/Moody's Analytics/Arch MI*

Housing and Mortgage Market Indicators

PERCENTAGE OF MEDIAN INCOME NEEDED FOR PAYMENTS ON A MEDIAN-PRICED HOME

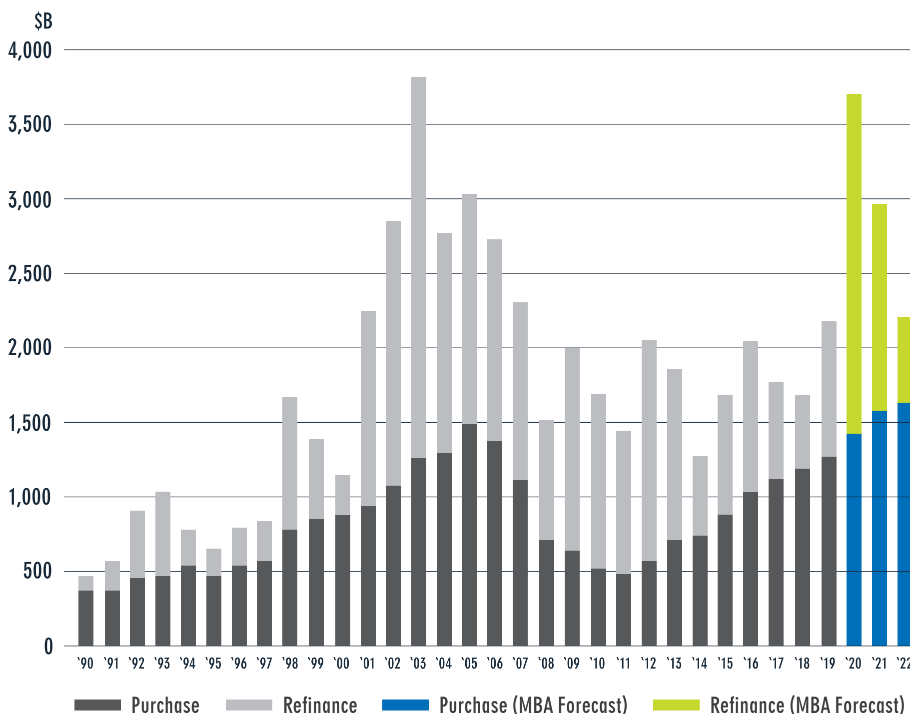


Housing affordability improved because of lower mortgage rates. It remains better than historic norms nationally. The median DTI increased marginally from 28.5% in Q3 to 29.2% in Q4 as increased property prices offset falling interest rates. This level is still below the national average of 31% over the last 25 years from 1995 to 2020, and well below the average of 34% from 1987 to 2004.

Median DTI calculations are based on pre-tax median household income, a 10% down payment, escrow of annual expenses of roughly 1.75% of the initial home price (for insurance and property taxes) and the prevailing 30-year fixed rate, plus 0.75% to cover mortgage insurance and risk add-ons.

Sources: *U.S. Census Bureau/Freddie Mac/ NAR/Arch MI*

ORIGINATIONS IN MILLIONS OF $

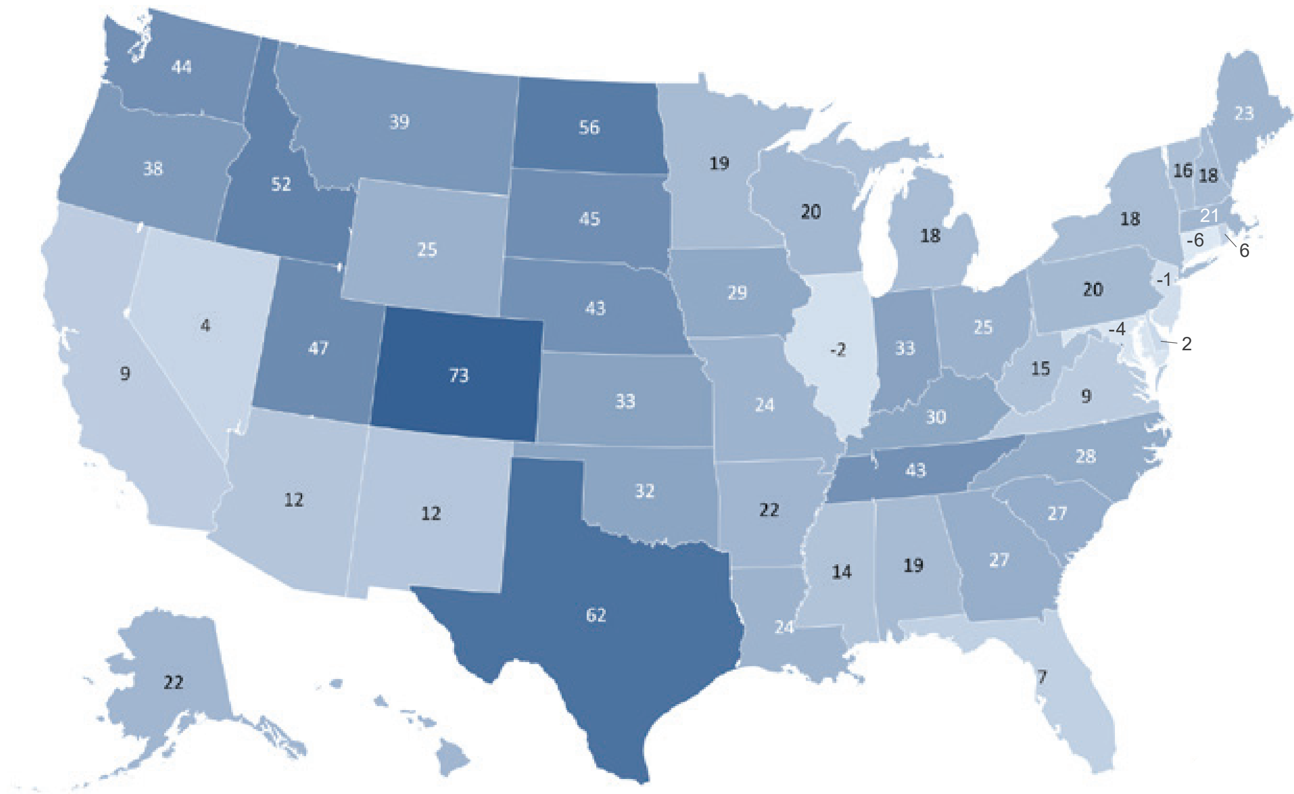


Future mortgage originations are likely to tilt toward purchase loans. When all numbers are finalized, 2020 refis are projected to be almost $2.3 trillion, more than double the 2019 level, while purchase originations of $1.4 trillion would be up more than 10%. The 2020 total market of close to $3.7 trillion almost broke the previous record of $3.8 trillion from 2003. Dollar volume of purchase mortgage originations is projected to continue its upward trend for the next two years while refi volumes decline on the back of expected rising rates.

Source: *Mortgage Bankers Association (MBA)/Arch MI*

Housing and Mortgage Market Indicators

HOME PRICE PERCENTAGE CHANGE FROM PRIOR PEAK (2005–2008)



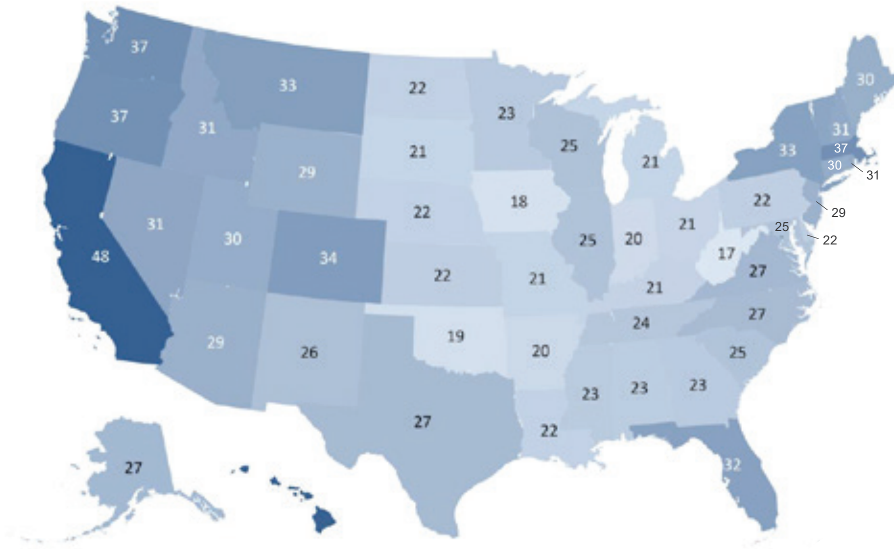
Home prices are still below their prior peak in four states: Connecticut (-6%), Maryland (-4%), Illinois (-2%) and New Jersey (-1%). Cumulative home price growth has varied widely since prices last peaked around 2006 (we measure since the peak for each state, which varied around 2006/2007). The **largest cumulative home price growth since home prices peaked is in Colorado, followed by Texas and North Dakota**, which have gone up more than twice as fast as the national average of 25%. This chart is intended to aid understanding of market strength over the past 15 years and doesn't indicate any overvaluation since it doesn't account for changes in income or reasonableness of prices at their prior peak.

Values shown are in nominal (not inflation-adjusted) terms.

Sources: *FHFA/Moody's Analytics/Arch MI*

Housing and Mortgage Market Indicators

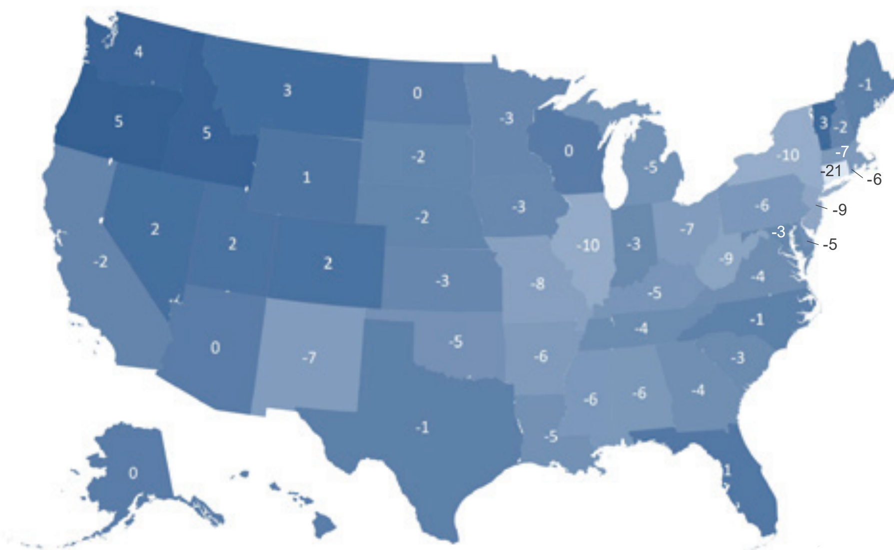
PERCENTAGE OF MEDIAN INCOME NEEDED FOR PAYMENTS ON A MEDIAN-PRICED HOME



Our affordability measure is the percentage of median income required to make monthly mortgage payments on a median-priced home. Lower values indicate better affordability, such as in West Virginia, Iowa, and Oklahoma. It is a calculation and not based on the front-end DTIs of actual loans. Calculations are based on pre-tax median household income, a 10% down payment, escrow of annual expenses of roughly 1.75% of the initial home price (for insurance and property taxes, which we vary by state), and the prevailing 30-year fixed rate plus 0.75% to cover mortgage insurance and risk add-ons.

Sources: *U.S. Census Bureau/Freddie Mac/NAR/Moody's Analytics/Arch MI*

DIFFERENCE IN PERCENTAGE OF MEDIAN INCOME NEEDED NOW VS. NORMAL YEARS

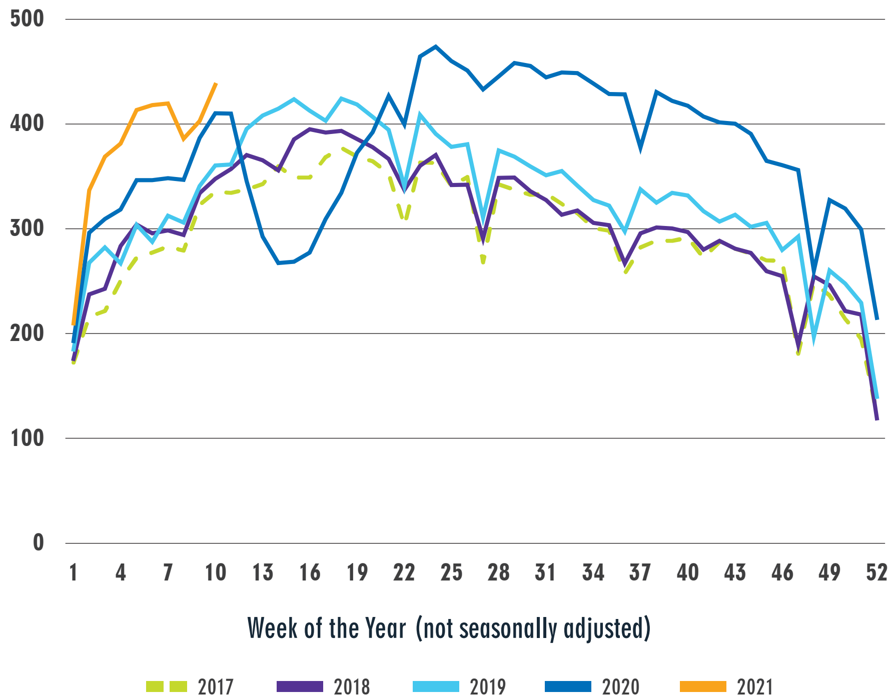


Affordability is worse than historical norms in the Northwest and Mountain West. This map shows how affordability differs now compared to historical norms; a value of 5 indicates mortgage payments on the same home take 5% more of a borrower's income than it did many years ago. It is the percentage of median income needed for monthly mortgage payments on a median-priced home (shown above), minus the average from the pre-bubble years between 1987 and 2004. For the U.S., the median-priced home only requires 29% of the median income, down 5% from its 1987–2004 average of 34%. Oregon has the worst state affordability now compared to its 1987–2004 average, followed by Idaho and Washington.

Sources: *U.S. Census Bureau/Freddie Mac/NAR/Moody's Analytics/Arch MI*

Housing and Mortgage Market Indicators

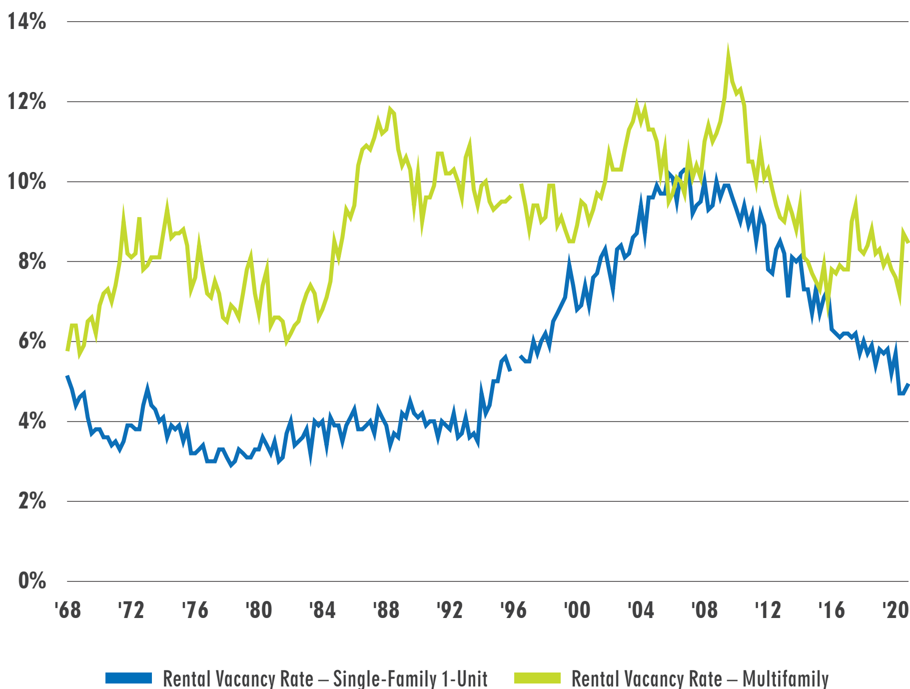
MBA MORTGAGE PURCHASE APPLICATION INDEX



Purchase mortgage applications are up more than 10% over the first 10 weeks of 2021, compared to the same 10 weeks in 2020. The weekly MBA purchase mortgage applications index (for conventional loans) has been running higher than the level for the prior year since after the initial dip related to COVID-19.

Sources: *MBA/Arch MI*

U.S. RENTAL VACANCY RATE

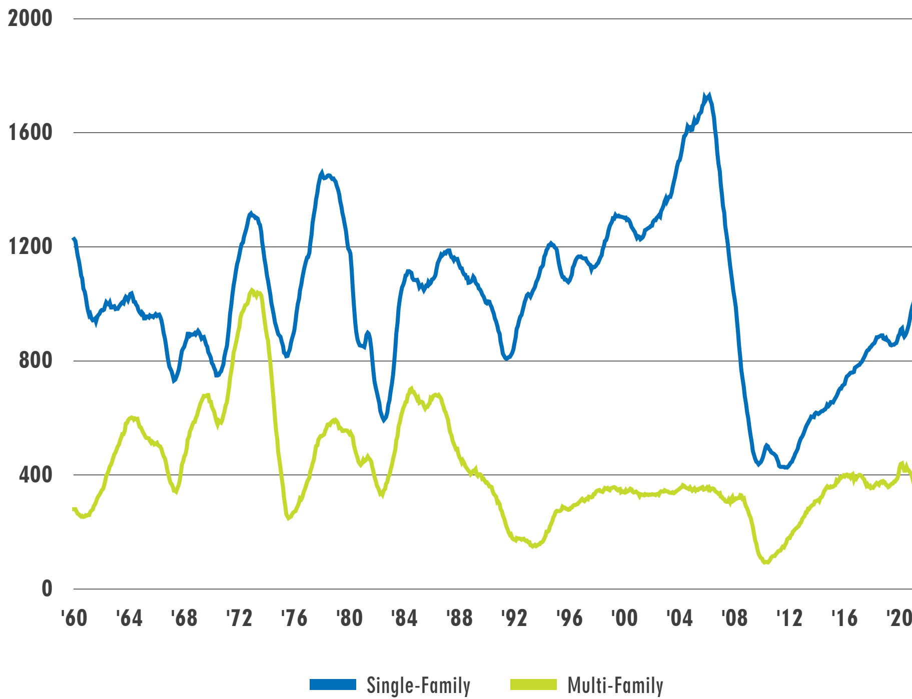


The U.S. single-family rental vacancy rate remains at low levels not seen since 1994, at 4.9% in the fourth quarter of 2020, up marginally from the low of 4.7% in Q2 and Q3. Sustained low rental vacancy rates indicate a tight housing market.

Sources: *U.S. Census Bureau/Moody's Analytics/Arch MI*

Housing and Mortgage Market Indicators

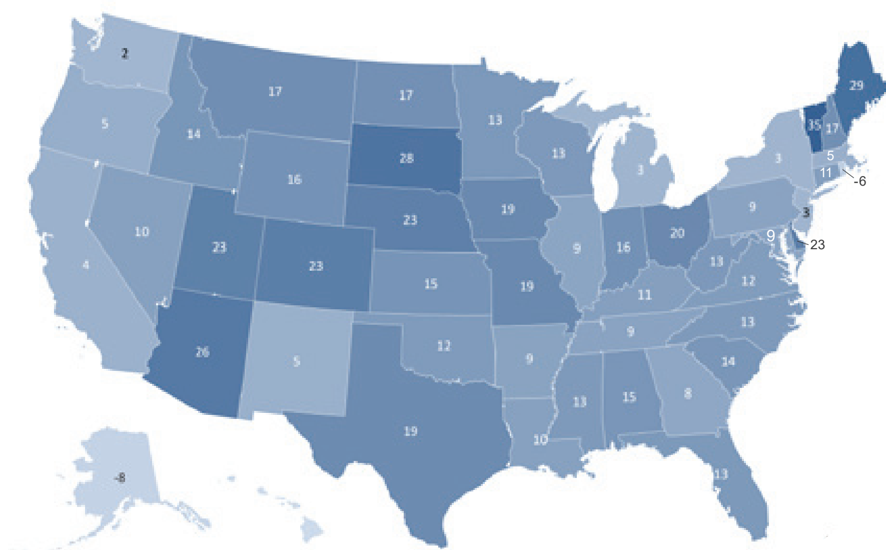
ANNUAL HOUSING STARTS, IN THOUSANDS



Housing starts bottomed out during the peak of the lockdowns. Single-Family Housing Starts hit their highest level since 2007 in December at 1.3 million units (seasonally adjusted annual rate) and multi-family starts were at an annualized rate of 357,000 units a year for the same period. The chart smooths out highly volatile monthly data by taking a 12-month moving average and on this measure the single-family starts crossed the 1 million units annual rate in January 2021.

Sources: *U.S. Census Bureau/Moody's Analytics/Arch MI*

ANNUAL PERCENTAGE CHANGE IN HOUSING STARTS

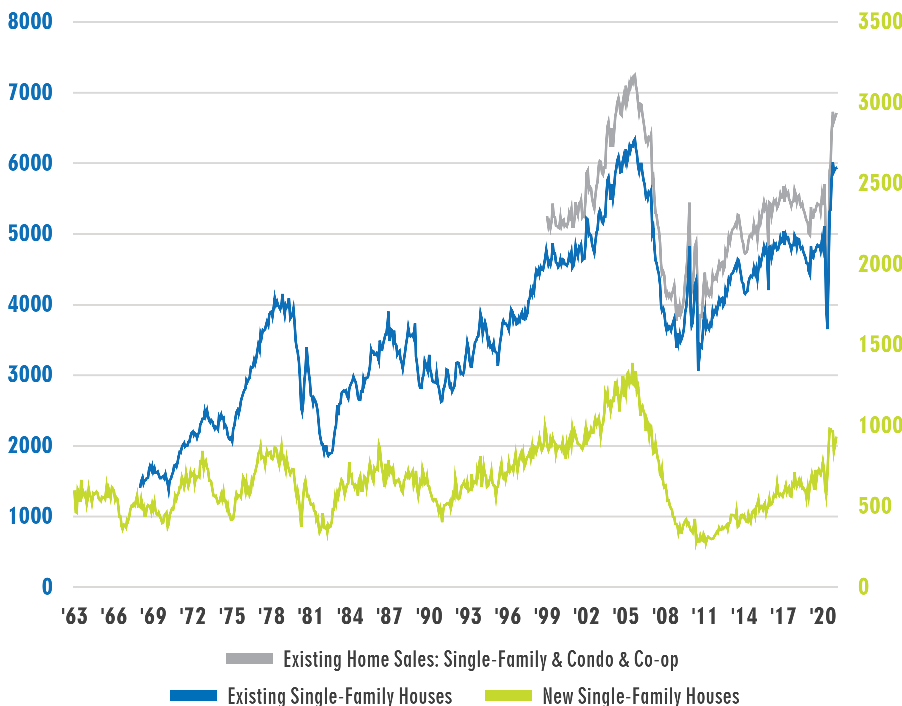


The percentage change in housing starts varies widely and is strongest in the middle of the country. We are also seeing strength in New England as **housing starts increased the most in Vermont**, followed by Maine. Data represents percent growth from January 2020 to January 2021. To get a clearer understanding of the trend, unlike numbers seen elsewhere, we smooth the data by showing a 12-month moving average to dampen short-term volatility due to weather, survey limitations, etc.

Sources: *U.S. Census Bureau/Moody's Analytics/Arch MI*

Housing and Mortgage Market Indicators

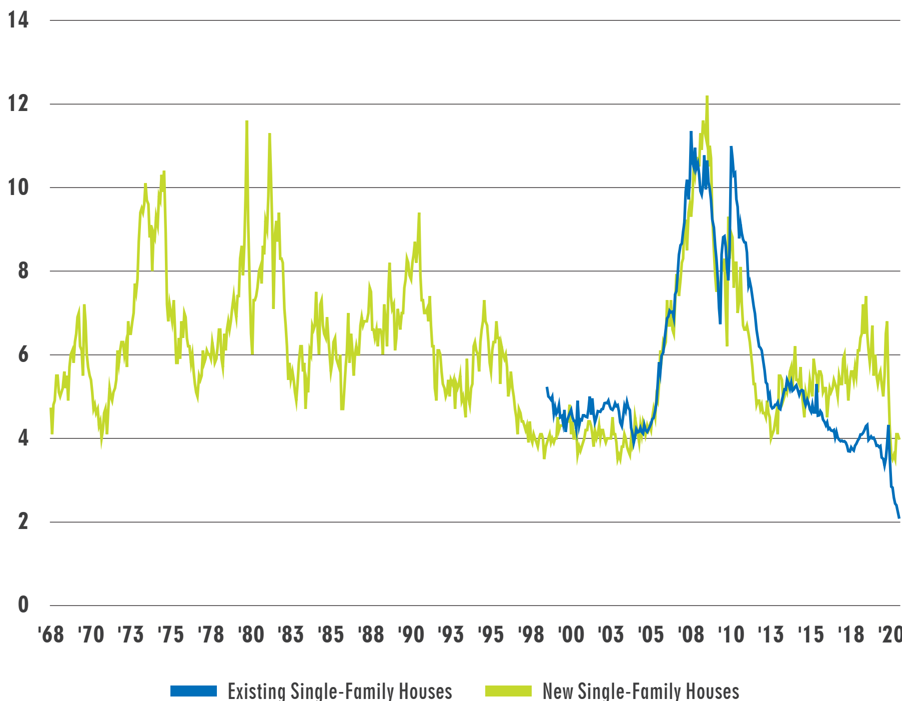
NEW AND EXISTING HOME SALES IN THOUSANDS



Both new and existing home sales have bounced back strongly. Sales of existing homes (including single-family, condo, and co-ops) were 6.7 million units (after annualizing the seasonally adjusted monthly number) in January 2021. That was 24% higher than January 2020. Sales of newly constructed homes were 923,000 units (annualized rate) in January 2021. Existing home sales are based on the closing of contracts signed one to two months earlier, while new home sales are counted at the time of signing.

Sources: *NAR/U.S. Census Bureau/Moody's Analytics/Arch MI*

MONTHS' SUPPLY OF HOMES FOR SALE



The inventory of homes for sale once again hit record lows. The months' supply of existing homes (including single-family, condo, and co-ops) for sale (total current listings ÷ last month's sales) **was 2.1 months** at the end of January 2021, compared to 3.5 months in January 2020. The months' supply of new homes for sale, shown in green, remained low at **4 months** which is much lower than its post-recession high of 7.4 months reached at the end of 2018, and lower than its long-term average of 6.1 months.

Sources: *NAR/Moody's Analytics/Arch MI*

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[1] *Subject to any applicable regulatory requirements, Arch MI reserves the right to terminate the program at any time without notice.*

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