# Housing Market Indicators Monthly Update



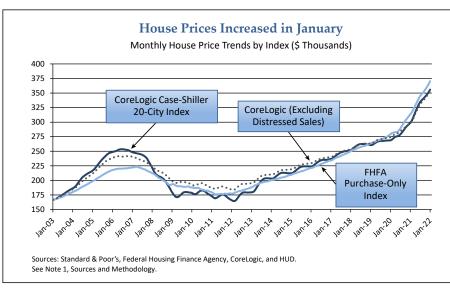
March 2022

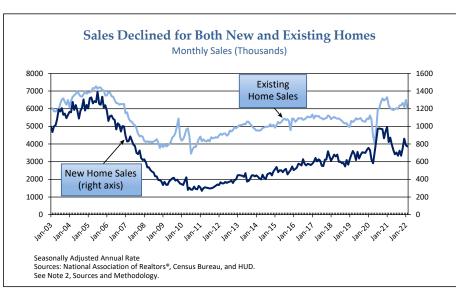
National housing market indicators available as of March showed activity in housing markets was mixed overall. Trends in some of the top indicators for this month include:

- Purchases of new homes declined. New single-family home sales fell 2.0 percent to 772,000 units (SAAR) in February from 788,000 units in January and were down 6.2 percent year-over-year (y/y). Monthly data on new home sales tend to be volatile. (Sources: HUD and Census Bureau)
- Sales of existing homes slumped. The National Association of Realtors® (NAR) reported that February sales of existing homes (including single-family homes, townhomes, condominiums, and cooperatives) fell 7.2 percent to 6.02 million units (SAAR) from 6.49 million in January and were down 2.4 percent y/y. Interest rates now exceed 4 percent, inventories are lean, and house prices continue to grow, all of which are constraining sales.
- New home construction rose. Single-family housing starts increased 5.7 percent to 1.22 million homes (SAAR) in February and were 13.7 percent higher than a year earlier. Multifamily housing starts (5+ units in a structure), at 501,000 units (SAAR), increased 0.8 percent from January and were 37.3 percent higher than last year. Month-to-month (m/m) changes in multifamily starts are often volatile. Construction costs and labor shortages continue to constrain homebuilding, although construction employment improved. (Sources: HUD and Census Bureau)
- Annual house price gains accelerated in January. The Federal
  Housing Finance Agency (FHFA) seasonally adjusted purchaseonly house price index for January estimated that home values
  increased 1.55 percent m/m and 18.2 percent y/y, up from an
  annual gain of 17.7 percent in December. The non-seasonally
  adjusted (NSA) CoreLogic Case-Shiller® 20-City Home Price Index,
  posted a 1.41 percent increase in home values in January and
  y/y returns of 19.1 percent, up from 18.6-percent in December.
  (Both price indices are released with a 2-month lag.)
- The inventory of homes for sale rose. The listed inventory of new homes for sale, at 407,000 units at the end of February increased 2.3 percent from January and 33.0 from last year. That inventory would support 6.3 months of sales at the current sales pace, up from 6.1 months in January. Available existing homes for sale, at 870,000 units in February, increased 2.4 percent m/m but were down 15.5 percent y/y. That inventory represents a 1.7-month supply, up from 1.6 months in January.
- Homeowners' equity continued to show substantial gains, and the number of underwater borrowers continued to decline. The Federal Reserve estimated that homeowners' equity (total property value less mortgage debt outstanding) increased 4.1 percent, or \$1.048 trillion, in the 4th quarter of 2021 for a total of nearly \$26.4 trillion. Home-price growth is the primary driver of gains in equity. As of the 4th quarter, CoreLogic estimated the number of underwater borrowers (those who owe more on their mortgage than the value of their home) decreased by 380,000 homeowners y/y to 1.148 million, or 2.1 percent of

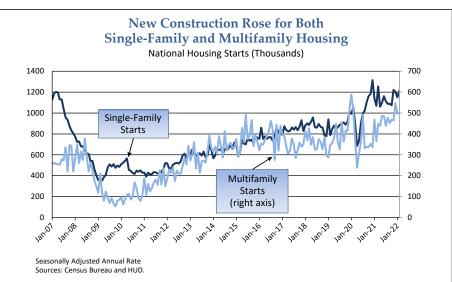
- residential properties with a mortgage, down from 1.528 million homeowners or 2.8 percent one year ago.
- Year-over year housing affordability declined. According to NAR's homeownership affordability index (HAI), at 150.3 for 2021, the affordability of purchasing a home was down 11.5 percent from 2020 [169.9], when it had increased 6.4 percent over the previous year. The decline in homeownership affordability was driven by rising home prices which more than offset lower interest rates and higher income. HUD's Rental Affordability Index (RAI), at 96.3 for 2021, was estimated to decline 7.5 percent from 2020 [104.0]. The inflation-adjusted, median rental price for 2021 was 5.1 percent higher than in 2020, while the typical, inflation-adjusted, income of rental households fell 2.4 percent over the same period. The rental price (which underlies the RAI) should be viewed with caution for 2020 and 2021, however, because they are based on quarters when data collection was restricted. In relying only on data collected under normal procedures (the RAI for 2019 [112.4] and the last two quarters of 2021 [98.5], the affordability of leasing a home was estimated to decline 12.4 percent over the two-year period or by an average annual (compounded) rate of 6.4 percent for 2020 and 2021. Note that the HAI is a measure of the ability of a median-income family to purchase a median-priced home, while the RAI is a measure of the ability of the medianincome renter household to lease a median-priced rental home.
- Forbearance on mortgage loans continued to decline. The MBA
   Forbearance Survey shows the share of homeowners with mortgages in forbearance was 1.18 percent (588,000 households) in February, down from 5.20 percent a year ago. The forbearance rate reached a high of 8.47 percent in June 2020 but was only 0.25 percent of all home loans in the beginning of March 2020, before the economic effects of the COVID pandemic began to be felt.
- Housing insecurity due to the pandemic remains elevated. HUD analysis of the Census Household Pulse Survey (Week 43; March 2-14, 2022) shows that approximately 13.7 percent, or 6.12 million, renter households were behind on rental payments. On average, renter households were 2.33 months behind on their payments (the median is 1.21 months), and 11.6 percent were 6 or more months behind. An estimated 9.4 percent of renter households were not at all confident in their ability to pay their rent on time, and 5.7 percent, or 2.53 million, renter households feared eviction was imminent in the next two months. HUD estimates that 6.7 percent, or 5.33 million, homeowner households were behind on their mortgage payments. Approximately 2.9 percent of homeowner households were not at all confident in their ability to pay their mortgage on time, and 1.17 percent, or 930,000, homeowners feared foreclosure was imminent in the next two months.
- The 30-year fixed-rate mortgage (FRM) exceeded 4 percent in March for the first time since May 2019. The 30-year FRM reached an average weekly high in March of 4.67 percent the week ending March 31, up from a high in February of 3.92 percent the week ending February 17 and up from 3.18 percent one year ago. (Source: Freddie Mac)



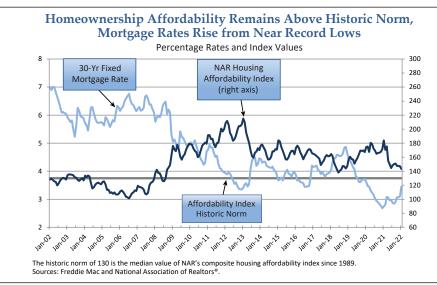




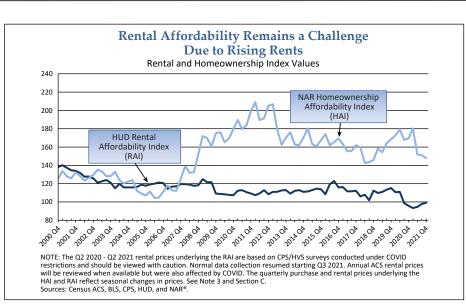


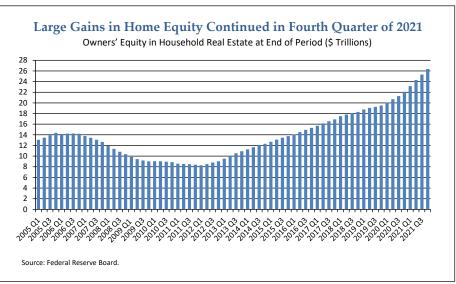




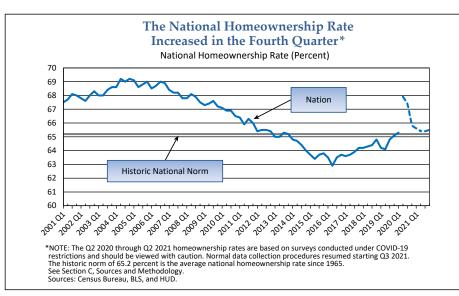


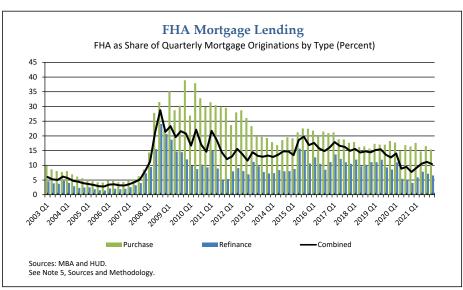


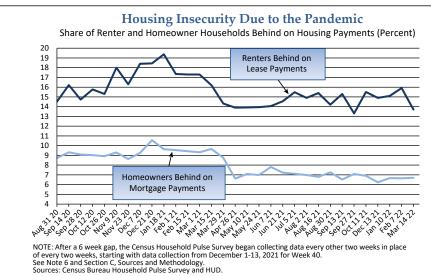


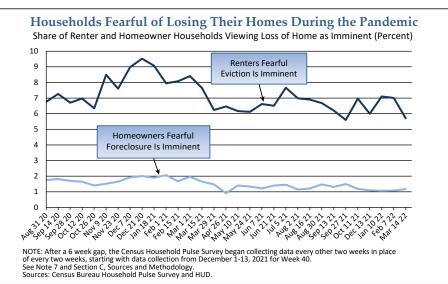




















HOUSING MARKET FACT SHEET								
Indicator	This Period	Last Period	Year Ago	Latest Release				
Mortgage Rates (30-Yr FRM, percent)	4.67	4.42	3.18	31-Mar-22				
Homeownership Affordability (index)	143.1	147.1 (r)	183.8	January-22				
Rental Affordability (index)	99.1	97.9 (r)	95.8	4th Q 21				
Home Prices (indices)								
CoreLogic Case-Shiller (NSA)	289.7	285.7 (r)	243.3	January-22				
FHFA (SA)	373.4	367.6 (r)	315.8	January-22				
CoreLogic - Excluding Distressed Sales (NSA)	272.6 (s)	269.1 (s,r)	229.9 (s)	January-22				
Home Sales	27210 (1)	20012 (17)		January 22				
New (thousands, SAAR)	772	788 (r)	823	February-22				
Existing (thousands, SAAR)	6,020	6,490 (r)	6,170	February-22				
First-Time Buyers (thousands, SAAR)	2,309 (s)	2,475 (s,r)	2,168 (s)	February-22				
Distressed Sales (percent, NSA)	2,303 (3)	1	2,100 (5)	January-21				
Housing Supply		1	2	January 21				
New Homes for Sale (thousands, SA)	407	398 (r)	306	February-22				
New Homes for Sale - Months' Supply (months, SA)	6.3	6.1 (r)	4.5	February-22				
Existing Homes for Sale (thousands, NSA)	870	850 (r)	1,030	February-22				
Existing Homes - Months' Supply (months)	1.7	1.6	2.0	February-22				
Vacant Units Held off Market (thousands)								
•	3,681	3,741	3,590	4th Q 21				
Housing Starts	4.760	4.657.()	4 447	F-1				
Total (thousands, SAAR)	1,769	1,657 (r)	1,447	February-22				
Single-Family (thousands, SAAR)	1,215	1,150 (r)	1,069	February-22				
Multifamily (thousands, SAAR)	501	497 (r)	365	February-22				
Mortgage Originations (thousands)								
Purchase Originations	1,296.1	1,348.4 (r)	1,390.0	4th Q 21				
Refinance Originations	1,646.3	1,800.9 (r)	3,206.8	4th Q 21				
FHA Mortgage Originations (thousands)								
Refinance Originations	26.2 (p)	28.8 (r)	50.8	January-22				
Purchase Originations	48.8 (p)	65.0 (r)	53.6	January-22				
Purchases by First-Time Buyers	40.9 (p)	51.7 (r)	44.8	January-22				
Mortgage Loans in Forbearance (percent)	1.18 (s)	1.30	5.20	28-Feb-22				
Mortgage Delinquency Rates (percent)								
Prime	2.1 (s)	2.1 (s)	4.2	February-22				
Subprime	14.7 (s)	14.7 (s)	20.2	February-22				
FHA	11.0	10.8	16.1	February-22				
Seriously Delinquent Mortgages (thousands)								
Prime	404 (s)	438 (r,s)	1,035	February-22				
Subprime	31 (s)	32 (s)	53	February-22				
FHA	474	500	889	February-22				
Renter Households - Ability to Pay Rent				,				
Behind on Rental Payments (%)	13.7 (s)	15.9	16.2	14-Mar-22				
Not Confident in Ability to Pay Rent on Time (%)	9.4 (s)	11.5	11.2	14-Mar-22				
Fearful of Imminent Eviction (%)	5.7 (s)	7.0	7.6	14-Mar-22				
Homeowner Households - Ability to Pay Mortgage	3.7 (0)	, .0	7.0	I IVIUI ZZ				
Behind on Mortgage Payments (%)	6.7 (s)	6.6	9.7	14-Mar-22				
Not Confident in Ability to Pay Mortgage on Time (%)	2.9 (s)	3.3	4.1	14-Mar-22				
Fearful of Imminent Foreclosure (%)	2.9 (s) 1.17 (s)	1.08	1.65	14-Mar-22				
Change in Aggregate Home Equity (\$ billions)	1,048	1,029 (r)	802	4th Q 21				
Jnderwater Borrowers (thousands)	1,148	1,181 (r)	1,528	4th Q 21				
National Homeownership Rate (percent)	65.5 (s)	65.4 (s)	65.8	4th Q 21				
oreclosure Actions (thousands)								
Foreclosure Starts	16.5	11.8	6.0	February-22				
Foreclosure Completions	2.6	4.8	1.5	February-22				
Short Sales	1.9 (p)	2.2 (r)	2.6	January-21				
REO Sales	3.4 (p)	4.4 (r)	6.3	January-21				

 $SA = seasonally \ adjusted, \ NSA = not \ SA, \ SAAR = SA \ annual \ rate, \ p = preliminary, \ r = revised, \ s = see \ Additional \ Notes \ in \ Sources$ 





SOURCES AND METHODOLOGY							
A. Items in Table							
Description	Frequency	Sources	Notes on Methodology				
Mortgage Rates (30-Yr FRM)	Weekly	Freddie Mac	Primary Mortgage Market Survey, as reported for 30-Year fixed rate mortgages (FRM).				
Homeownership Affordability	Monthly	National Association of Realtors®	NAR's Housing Affordability Index as reported. A value of 100 means that a family with the median income has exactly enough income to qualify for a mortgage on a median-priced home. An index above 100 signifies that a family earning the median income has more than enough income to qualify.				
Rental Affordability	Quarterly	HUD	HUD's Rental Affordability Index measures whether a typical renter household has enough income to qualify for a lease on a typical rental home at the national level based on the most recent price and income data. A typical renter household is one that earns median income and a typical rental home is a median-priced rental unit. It is assumed that a renter household can qualify for a lease if the annual rent is not greater than 30 percent of the renter household's annual income. A value of 100 means that a renter household with median income has exactly enough income to qualify for a lease on a median priced rental home. An index value above 100 signifies that a household earning the median income of renter households has more than enough income to qualify. For more information on HUD's rental affordability index and methodology, see the Second Quarter 2016 issue of HUD's National Housing Market Summary on their U.S. Housing Market Conditions website: http://www.huduser.gov/portal/ushmc/home.html.				
Home Prices							
CoreLogic Case-Shiller (NSA)	Monthly	Standard and Poor's	Case-Shiller 20-metro composite index, January 2000 = 100. Standard and Poor's recommends use of non-seasonally adjusted (NSA) index when making monthly comparisons.				
FHFA (SA)	Monthly	Federal Housing Finance Agency	FHFA monthly (purchase-only) index for U.S., January 1991 = 100.				
CoreLogic - Excluding Distressed Sales (NSA)	Monthly	CoreLogic	CoreLogic national combined index, distressed sales excluded, January 2000 = 100. (Only available as NSA). Also see additional note in Section C below on the CoreLogic HPI.				
Home Sales (SAAR)							
New	Monthly	HUD and Census Bureau	Seasonally adjusted annual rates. A newly constructed house is considered sold when either a sales contract has been signed or a deposit accepted, even if this occurs before construction has actually started.				
Existing	Monthly	National Association of Realtors®	Seasonally adjusted annual rates. Existing-home sales—which include single-family, townhomes, condominiums and co-ops—are based on transaction closings. This differs from the U.S. Census Bureau's series on new single-family home sales, which are based on contracts or the acceptance of a deposit.				
First-Time Buyers	Monthly	NAR, Census Bureau, and HUD	Sum of seasonally adjusted new and existing home sales (above) multiplied by National Association of Realtors® annual estimate of first-time buyer share of existing home sales.				
Distressed Sales (NSA)	Monthly	CoreLogic	Short sales and REO (Real Estate Owned) sales as a percentage of total existing home sales (current month subject to revision).				
Housing Starts							
Total (SAAR)	Monthly	HUD and Census Bureau	Housing starts are divided into three components: single-family, multifamily, and two-to-four unit structures. Start of construction occurs when excavation begins for the footings or foundation of a building. As of September 1992, housing starts include units being totally rebuilt on an existing foundation.				
Single-Family (SAAR)	Monthly	HUD and Census Bureau	Single-family housing includes fully detached, semi-detached (semi-attached, side-by-side), townhouses, and row houses. For attached units, each must be separated from the adjacent unit by a ground-to-roof firewall to be classified as a single-family structure. Also, these units must not share common facilities (i.e., heating/air-conditioning systems, plumbing, attic, or basement). Units built one on top of another and those built side-by-side that do not have a ground-to-roof firewall or have common facilities are not considered single-family units.				
Multifamily (SAAR)	Monthly	HUD and Census Bureau	Multifamily housing has five or more units in a structure.				
Housing Supply							
New Homes for Sale (SA)	Monthly	HUD and Census Bureau	As reported.				
New Homes for Sale - Months' Supply (SA)	Monthly	HUD and Census Bureau	As reported.				
Existing Homes for Sale (NSA)  Existing Homes -	Monthly Monthly	National Association of Realtors® National Association of Realtors®	As reported. As reported.				
Months' Supply Vacant Units Held off Market	Quarterly	Census Bureau	As reported in Census CPS/HPS Table 4. Estimates of Housing Inventory, line item "Year-round vacant, held off market for reasons other than occasional use, or usually reside elsewhere." Vacant units can be held off the market for a variety of reasons.				
Mortgage Originations							
Refinance Originations	Quarterly	Mortgage Bankers Association and HUD	HUD estimate of the number of refinance originations based on MBA estimate of dollar volume of refinance originations.				
Purchase Originations	Quarterly	Mortgage Bankers Association and HUD	HUD estimate of the number of home purchase originations based on MBA estimate of dollar volume of home purchase originations.				
FHA Originations							
Refinance Originations	Monthly	HUD	FHA originations reported as of date of loan closing. Estimate for current month scaled upward due to				
Purchase Originations	Monthly	HUD	normal reporting lag and shown as preliminary.				
Purchases by First-Time Buyers	Monthly	HUD					
. a.c. accordy in serimic buyers	Monthly						





A. Items in Table (continued)						
Mortgage Delinquency Rates (NSA)						
Prime	Monthly	Black Knight Financial Services	Total conventional mortgages past due (30+ days) but not in foreclosure, divided by conventional mortgages actively serviced.			
Subprime	Monthly	Black Knight Financial Services	Total conventional mortgages past due (30+ days) but not in foreclosure, divided by conventional mortgages actively serviced.			
FHA	Monthly	HUD	Total FHA mortgages past due (30+ days) but not in foreclosure, divided by FHA's insurance in force.			
Seriously Delinquent Mortgages						
Prime	Monthly	LPS Applied Analytics, MBA, and HUD	Conventional mortgages 90+ days delinquent or in foreclosure, scaled up to market.			
Subprime	Monthly	LPS Applied Analytics, MBA, and HUD	Conventional mortgages 90+ days delinquent or in foreclosure, scaled up to market.			
FHA	Monthly	HUD	Mortgages 90+ days delinquent or in foreclosure.			
Renter Households - Ability to Pay Rent	Every 2 Weeks	Census Bureau Household Pulse Survey	Data are collected over a 2-week period. The Survey began April 23, 2020. Data are weighted by number of households; data posted on the Census website are weighted by population.			
Behind on Rental Payments		Census Household Pulse Survey and HUD	Data weighted by # of households; 2019 AHS estimates 44.7 million U.S. renter households.			
Not at All Confident in Ability to Pay Rent on Time		Census Household Pulse Survey and HUD	Data weighted by # of households; 2019 AHS estimates 44.7 million U.S. renter households.			
Fearful of Imminent Eviction		Census Household Pulse Survey and HUD	Respondent answered "very likely" or "somewhat likely" to the question: How likely is it that your household will have to leave this home or apartment within the next two months because of eviction?			
Homeowner Households - Ability to Pay Mortgage	Every 2 Weeks	Census Household Pulse Survey	Data are collected over a 2-week period. The Survey began April 23, 2020. Data are weighted by number of households; data posted on the Census website are weighted by population.			
Behind on Mortgage Payments		Census Household Pulse Survey and HUD	Data weighted by # of households; 2019 AHS estimates 79.5 million U.S. homeowner households.			
Not at All Confident in Ability to Pay Mortgage on Time		Census Household Pulse Survey and HUD	Data weighted by # of households; 2019 AHS estimates 79.5 million U.S. homeowner households.			
Fearful of Imminent Foreclosure		Census Household Pulse Survey and HUD	Respondent answered "very likely" or "somewhat likely" to the following question: How likely is it that your household will have to leave this home within the next two months because of foreclosure?			
Change in Aggregate Home Equity	Quarterly	Federal Reserve Board	Difference in aggregate household owners' equity in real estate as reported in the Federal Reserve Board's Flow of Funds Accounts of the United States for stated time period.			
Underwater Borrowers	Quarterly	CoreLogic	As reported.			
National Homeownership Rate	Quarterly	Census Bureau	Homeownership in the U.S. as a percentage of all households.			
Foreclosure Actions						
Foreclosure Starts	Monthly	ATTOM Data Solutions (Formerly RealtyTrac)	Foreclosure starts are reported counts of notice of default or scheduled foreclosure auction, depending on which action starts the foreclosure process in a state.			
Foreclosure Completions	Monthly	ATTOM Data Solutions	Real Estate Owned (REO).			
Short sales	Monthly	CoreLogic	Count of Short Sales for the month as reported (current month subject to revision).			
REO Sales	Monthly	CoreLogic	Count of REO (Real Estate Owned) Sales for the month as reported (current month subject to revision).			

### **B. Notes on Charts**

- 1. Monthly house price trends, shown as changes in respective house price indices applied to a common base price set equal to the median price of an existing home sold in January 2003, as reported by the National Association of Realtors®. Indices shown: S&P/CoreLogic Case-Shiller 20-metro composite index (NSA), January 2000 = 100, FHFA monthly (purchase-only) index for U.S. (SA), January 1991 = 100, and CoreLogic-Distressed Sales Excluded (Monthly) for U.S. (NSA), January 2000 = 100. Also see additional note below in Section C on the CoreLogic HPI.
- 2. Reported seasonally adjusted annual rates for new and existing home sales.
- A comparison of the affordability of renting a home to purchasing a home. HUD's Quarterly Rental Affordability Index is compared to NAR's Composite Quarterly Affordability Index. See note in Section A on Rental Affordability.
- 4. Filings of a notice of default or scheduled foreclosure auction, depending on which action starts the foreclosure process in a state, are reported for foreclosure starts. Foreclosure completions are properties entering REO. Both as reported by ATTOM Data Solutions (formerly RealtyTrac).
- 5. FHA market shares are FHA purchase and refinance originations divided by HUD estimates of purchase and refinance mortgage originations, as noted in "Mortgage Originations" above. See additional note below on FHA market share.
- 6. See notes in Section A on renter and homeowner households' ability to make rental or mortgage payments. The results represent a "No" in response to the question, "Is this household currently caught up on their rent or mortgage payment?" Results prior to the two-week period ending August 31, 2020, are not presented because the survey question then was, "Did you pay your last month's rent or mortgage payment on time?"
- 7. See notes in Section A on renter and homeowner households fearful of eviction or foreclosure. For renter households, the results represent a "Very Likely" or "Somewhat Likely" response to the question, "How likely is it that your household will have to leave this home or apartment within the next two months because of eviction?" For homeowner households, the results represent a "Very Likely" or "Somewhat Likely" response to the question, "How likely is it that your household will have to leave this home within the next two months because of foreclosure?"





### **SOURCES AND METHODOLOGY**

### C. Additional Notes

Beginning in May 2019, NAR replaced its Composite Housing Affordability Index (HAI), which was based on the 30-year fixed rate mortgage and adjustable rate mortgages (ARM), with a Fixed HAI based only on the 30-year fixed rate mortgage.

Black Knight enhanced their database as of December 2017 data, increasing their database coverage by nearly 1 million additional loans through several new contributors and improved coverage of certain types of data. In addition, HUD added filters to make sure all FHA and VA loans were excluded from the data to ensure reporting of only conventional loans. The November 2017 changes in reported data are mainly due to the additional filters.

FHA Market Share data were updated in the June 2017 report based on the most recent HMDA data and revised house price estimates. FHA market share estimates were based on new methodology beginning with the October 2013 report; estimates were revised back through Q1 2011. See the FHA Market Share report on their website for an explanation of the new methodology: http://portal.hud.gov/hudportal/HUD?src=/program\_offices/housing/rmra/oe/rpts/fhamktsh/fhamktqtrly.

The estimate for first-time buyers was 33 percent for 2019, based on the 2019 NAR annual survey of homebuyers released in October 2019. The estimate was the same as their estimate for 2018 with the October 2018 release of the NAR Profile of Home Buyers and Sellers 2018 report. The annual reporting of first-time buyers differs from NAR's monthly Realtors Confidence Index survey because the annual survey, for the most part, represents purchases of homes by owner-occupants and does not include purchases by investors, as in the monthly survey.

CoreLogic's House Price Index (HPI) estimates are based on new methodology beginning with their June 2016 report, which includes data through April 2016. A variety of modeling and other enhancements to their HPI and its forecast, including a 14-percent expansion in the number of transaction pairs, were made

MBA switched to reporting monthly forbearance data in place of weekly data starting November 2021.

There was a 2-month gap in the collection of Census Household Pulse Survey data as it transferred to Phase 3.3 of the survey. Data for Week 40, the first survey of Phase 3.3, took place from December 1, 2021 to December 13, 2021 and was released on December 22, 2021. Data collection during Phase 3.3 will occur every other two weeks instead of every two weeks.

The BLS Consumer Population Survey/Housing Vacancy Survey (CPS/HVS) is conducted by the Census Bureau and collects data on indicators used in this report, including the homeownership rate, housing units held off market, and housing rental prices. The Bureau views the 2Q 2020 through 2Q 2021 period as a break in series because COVID-19 prevented normal data collection procedures. The Census Bureau suspended in-person interviews on March 20, 2020 and conducted the survey for the rest of the first quarter and the entirety of the second quarter solely procedures. The Census Bureau suspended in-person interviews on March 20, 2020 and conducted the survey for the rest of the first quarter and the entirety of the second quarter solely by telephone interviews. In-person interviews were incrementally added back in the subsequent four quarters with respective rates of 63, 94, 98, and 99 percent of in-person interviews allowed. Normal data collection procedures resumed in Q3 2021 with less than one-half of one percent of in-person interviews restricted. See https://www.census.gov/housing/hvs/files/qtr321/impact\_coronavirus\_21q3.pdf. Analysis of data provided by the Census Bureau on a subset of areas where 100 percent of in-person interviews were allowed in the 4th quarter of both 2019 and 2020 by the Harvard JCH5 suggest the U.S. homeownership rate likely increased over the year from 4Q 2019 to 4Q 2020, but by less than the amount estimated using the full data set. The data subset shows the homeownership rate increased 0.4 percentage point over the four-quarter period compared to a 0.7 percentage point increase using the full data set. This implies the homeownership rate may have increased from 65.1 percent in 4Q 2019 to 65.5 percent in 4Q 2020. Results were not provided for housing units held off market and rental prices. See https://www.jchs.harvard.edu/blog/new-data-suggest-modest-increase-homeownership-and-household-growth-over-past-year. Data users should consider the data collection procedures used when using estimates and comparing data from different quarters.