



CoreLogic®



The MarketPulse

APRIL 2019

The MarketPulse

Volume 8, Issue 4

April 2019

Data as of February 2019

(unless otherwise stated)

Housing Statistics

April 2019

HPI® YOY Chg	4.0%
HPI YOY Chg XD	3.8%
NegEq Share (Q4 2018)	5.4%

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Home Flipping Near Cycle Highs, But Flippers Increasingly Adding Value

Economic Observations: April 2019

By Ralph McLaughlin

Home flipping activity¹—which is the act of buying a property with the intent to sell in a short period of time for a profit—has increased steadily over the last eight years. By the fourth quarter of 2018, the flipping rate in the U.S. reached 10.6 percent of all home sales. While this is down from the cycle-high of 11.1 percent earlier that year, home flipping is seasonal. Accounting for this seasonality, the flipping rate in the fourth quarter of 2018 was the highest rate for a fourth quarter since we started tracking home flipping back in 2002.

At the same time that we’re seeing flipping rates hover near historic highs, we also find that flippers are making healthy returns² on their projects. Nationally, the median annualized return on flipping was flat year-over-year to just over 40 percent in the fourth quarter of 2018.

We also find that flippers today are likely using a different business model than they were in the past. How do we know this? By

combining CoreLogic public records data with our robust statistical models, we can estimate the discount that a flipper received on a property when they purchased it, and the premium they received when they sold it. Along with market appreciation, these are the three sources of returns that flippers can make on a home.

As you can see in these charts, back in the early 2000s the average flipper didn’t make much from either buying at a discount or selling at a premium, suggesting that flippers were relying more on speculation and rising prices than anything else to make a return. However, since the Great Recession, flippers have been increasingly good at acquiring

Continued on page 7



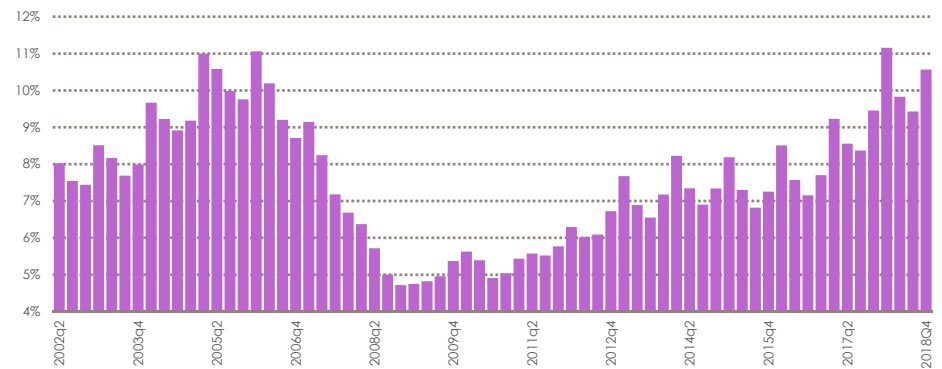
Ralph McLaughlin
Deputy Chief Economist

Ralph McLaughlin holds the title deputy chief economist for CoreLogic in the Office of the Chief Economist. He is responsible for leading economic research and using data and analytics to expand the visibility of the CoreLogic economic policy unit. He also works to enhance research capabilities and tools for clients, industry leaders, the public sector and news media.

Ralph has more than 15 years of experience in housing economics, applied econometrics, real estate development and investment, land use planning, spatial analysis, and economic geography. He previously worked at Trulia and Veritas Urbis Economics. He also served as an assistant professor at the San Jose State University. While at Trulia, he led the company’s housing economics research team, providing buyers with key insights about the economy, housing trends and public policy.

FIGURE 1. FLIPPING RATES AND CHARACTERISTICS

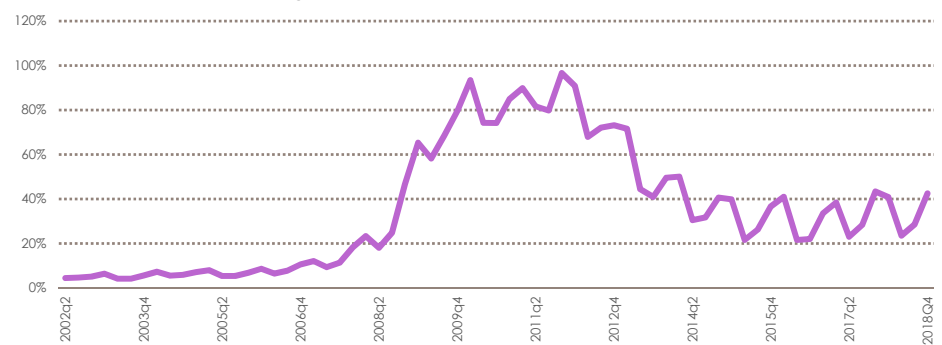
Flipping Rates Have Trended Up for Eight Years



Source: CoreLogic

FIGURE 2. FLIPPING RETURNS

% Annualized Economic Returns Range from 0 to 95 Percent



Source: CoreLogic

¹ Flipping is defined as the purchase of a property with the intent to sell within a two-year period for profit. We use the 24-month definition as that is the Internal Revenue Service’s threshold for when real estate holdings could be considered owner-occupied and thus eligible for capital gains exemptions. We also diverge from previous CoreLogic work on flipping that uses a 12-month definition. We do so because 12-month flips only capture flips that are subject to short-term capital gains tax, whereas properties flipped but held for 12–24 months are considered investments but subject to long-term capital gains tax. Since long-term capital gains tax rates tend to be lower than short-term capital gains tax rates, using the 24-month definition thus allows for a much broader analysis of investment in, and returns to, home flipping activity since some flippers may choose to hold properties longer than 12 months so that they may pay the lower long-term capital gains tax rate.

² We measure returns as the annualized economic returns to flipping, which considers the opportunity costs of a flip (price growth of similar houses that weren’t part of a flip), any market discount the flipper received on the purchase of the property, and any premium the flipper received on the sale of the property. Because we do not observe the capital expenditures that an individual flipper deployed to undertake any renovations or repairs, our estimates of returns represent the upper bound of a return.

Special Report: House Flipping and Profits

Flipping Rates Near Historic Highs, but Flippers Are Playing a Different Game

By Ralph McLaughlin

“The flipping rate in the fourth quarter of 2018 was also the highest rate for any fourth quarter in our flipping data series.”

Home flipping activity¹ is on the rise. The rate has increased on a year-over-year basis for 12 consecutive quarters, and on a seasonally adjusted basis is now at the highest level since we started keeping track in 2002. But the flipping game is different this time around, with short-term investors focusing more on adding value than speculating on prices.

In this CoreLogic special report, we take a deep dive into home flipping. Not only do we investigate flipping rates nationally and across U.S. metros, we also estimate the gross economic returns² to home flipping at the national level, and test to see what factor is most correlated with such returns.

Home Flipping Rates Up Nationally, Highest in Sand States

By the fourth quarter of 2018, the flipping rate in the U.S. reached 10.9 percent of all home sales—the fourth highest rate since we started keeping track in 2002, just behind the first quarter of 2018 (11.4 percent, the highest on record), the first quarter of 2006 (11.3 percent), and the first quarter of 2005 (11.1 percent). The flipping rate in the fourth

quarter of 2018 was also the highest rate for any fourth quarter in our flipping data series.

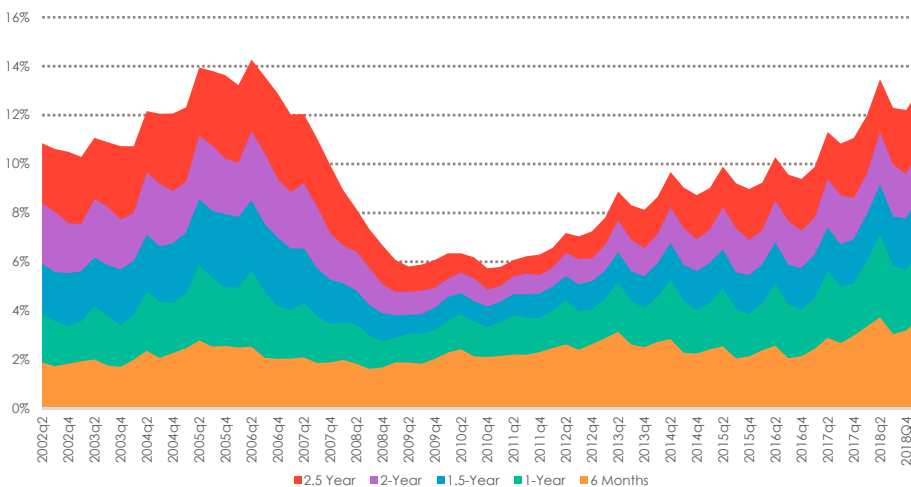
While we use the two-year definition of flipping in the remainder of this report, it's important to also look at how other measures of home flipping have trended over time. As we can see from Figure 1, the fluctuations in flipping activity over time has predominantly occurred not from the involvement of short-term flippers (buying and reselling within 6 months), but rather from longer-term flippers (one year or more). This could be for a few reasons that we'll investigate in a future report, but it could be a combination of: (1) as prices rise during a housing market expansion, flippers undertake more complicated and time-consuming flips (2) less experienced flippers enter the game, and can't turn around flips as fast as more experienced flippers, or (3) tax-incentives encourage flippers to take advantage of market appreciation by holding onto properties longer.

Using the two-year definition, we also find that flipping rates vary sharply across the country, tending to be highest in sunbelt metros and lowest in rustbelt metros, although the dichotomy doesn't fit perfectly. For example, eight of the top ten metros with the highest flipping rate in the fourth quarter of 2018 were in the Sunbelt, with Birmingham, Memphis, and Tampa leading the pack with rates of 16.5, 16.2, and 15.1 percent, respectively. Just two of the top ten were in the rustbelt, with Camden and Philadelphia having rates of 14.9 and 14 percent.

At the low-end, flipping activity tends to be lowest in Rustbelt metros, although two Sunbelt metros, Austin and Houston, make the list with flipping rates at 4.3 and 5.9 percent,

Continued on page 3

FIGURE 1. U.S. QUARTERLY FLIPPING RATES: 2002–2018
Flipping Rates Have Trended Up Since 2010



Source: CoreLogic Public Records and Author's Calculations.

Special Report continued from page 2

respectively. Several metros in Connecticut also lag the country, with Bridgeport, Hartford, and New Haven showing flipping rates of 4.4, 5.1, and 5.3 percent. Five other Rustbelt metros make the list: Springfield, MA, Pittsburgh, PA, Kansas City, MO, Elgin, IL, and Kenosha, WI.

Returns Have Been on a Wild Flipping Ride

In addition to flipping rates, we also estimate economic returns to flipping. What's the difference between economic and normal (nominal) returns? Nominal returns are simply the percent difference between what an investor paid a property and what they sold it for, and economic return is the return that excludes opportunity costs, which in the case of flipping is general home value fluctuation. By using economic returns, we can get an idea about whether flippers are adding value of whether they are speculation on market appreciation. See our endnotes for a clarifying example.³

Nationally, we find that gross economic returns in the U.S. have been on a wild ride over our study period. From 2002–2007, both economic returns and annualized economic returns (the latter of which controls for the length of a flip) hovered around 4–5 percent. Because closing costs when selling a home are anywhere from 5–8 percent, these findings suggest that the only other way that flippers were trying to make money was by speculating on home value appreciation (remember, **economic** profits exclude home price appreciation).

After 2007, returns skyrocketed for flippers to a median of around 40 percent (and near 100 percent when annualized), presumably because they were able to purchase

Continued on page 4

FIGURE 2: METROS WITH HIGHEST AVERAGE FLIPPING RATES, 2018Q4

Tend to be Highest in Sunbelt

Metros with Highest Flipping Rates	Flipping Rate
Birmingham, AL	16.5%
Memphis, TN	16.2%
Tampa, FL	15.1%
Las Vegas, NV	15.0%
Camden, NJ	14.9%
Phoenix, AZ	14.8%
Palm Bay, FL	14.1%
Philadelphia, PA	14.0%
Lakeland, FL	13.9%
Atlanta, GA	13.8%

Source: CoreLogic Public Records and Author's Calculations

FIGURE 3: METROS WITH LOWEST AVERAGE FLIPPING RATES, 2018Q4

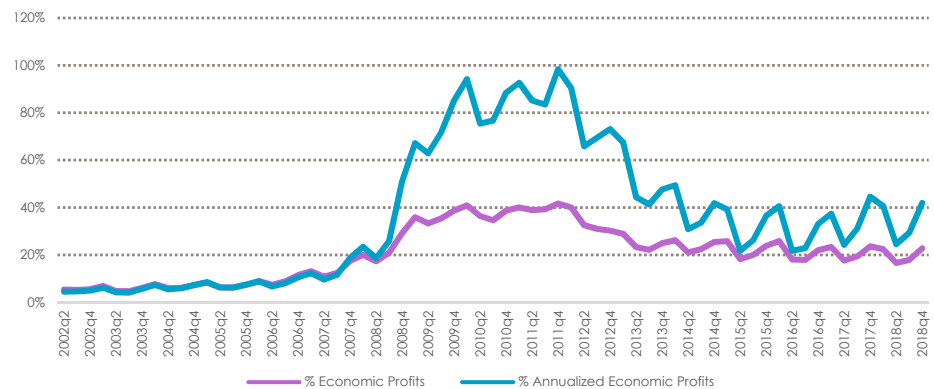
Tend to be Lowest in Rustbelt

Metros with Lowest Flipping Rates	Flipping Rate
Austin, TX	4.3%
Bridgeport, CT	4.4%
Hartford, CT	5.1%
New Haven, CT	5.3%
Houston, TX	5.9%
Springfield, MA	6.2%
Pittsburgh, PA	6.3%
Kansas City, MO-KS	6.5%
Elgin, IL	6.5%
Knosha County, WI	6.6%

Source: CoreLogic Public Records and Author's Calculations

FIGURE 4. GROSS FLIPPING RETURNS

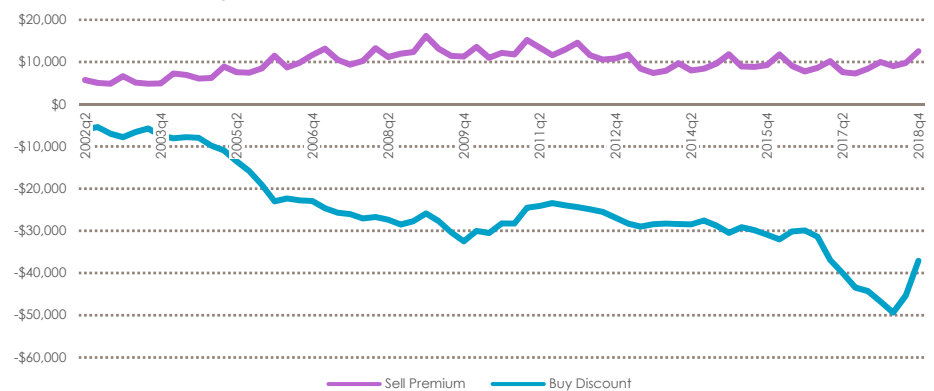
Flipping Returns: % Economic Returns vs. % Annualized Economic Returns



Source: CoreLogic Public Records and Author's Calculations

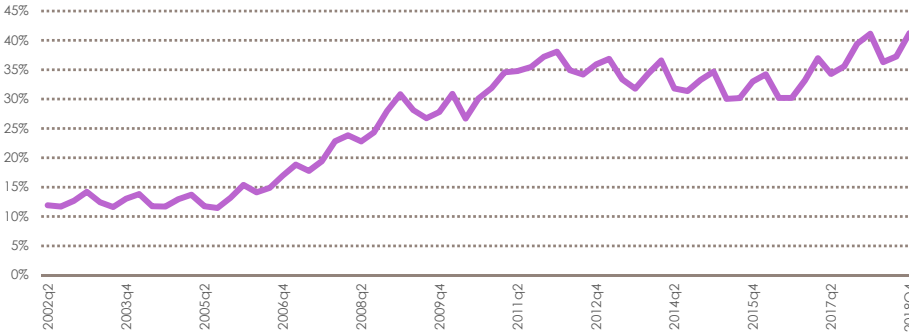
FIGURE 5. MEDIAN FLIPPING TRANSACTION DISCOUNTS AND PREMIUMS

Buy-Side Discount Increasing Over Time



Source: CoreLogic Public Records and Author's Calculations

FIGURE 6. MORE CORPORATE FLIPPERS ENTERING THE MARKET
Corporate Flippers Turned Over Record High Share of Flips in 2018Q4



Source: CoreLogic Public Records and Author's Calculations

FIGURE 7: METROS WITH HIGHEST MEDIUM FLIPPING RETURNS, 2018Q4
Tend to be Highest in Areas with Older Housing Stocks

Metros with Highest Flipping Returns	Flipping Return
Detroit, MI	95.9%
Philadelphia, PA	92.8%
Pittsburgh, PA	75.0%
Cleveland, OH	70.0%
Akron, OH	65.7%
Baltimore, MD	63.6%
Buffalo, NY	62.3%
Wilmington, DE	60.1%
Toledo, OH	59.4%
Milwaukee, WI	58.9%

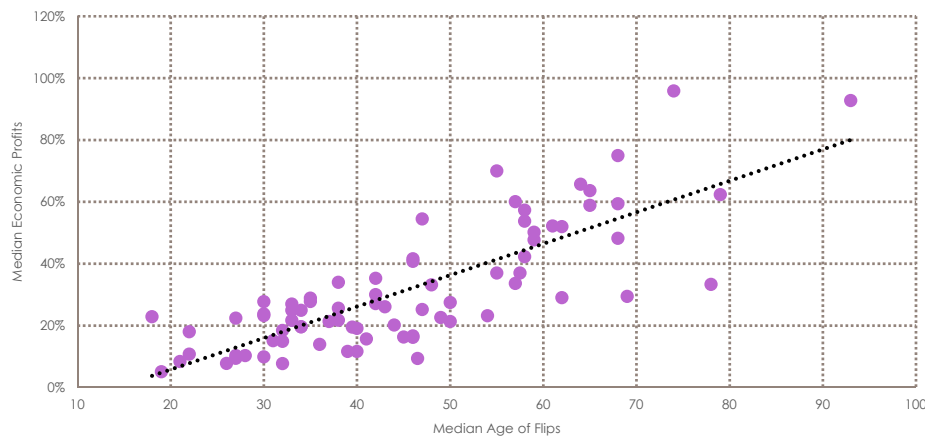
Source: CoreLogic Public Records and Author's Calculations

FIGURE 8: METROS WITH LOWEST MEDIUM FLIPPING RETURNS, 2018Q4
Tend to be Highest in Areas with Newer Housing Stock

Metros with Lowest Flipping Returns	Flipping Return
Raleigh, NC	5.1%
Colorado Springs, CO	7.7%
Charlotte, NC	7.8%
Fayetteville, AR	8.4%
Kansas City, MO	9.4%
Austin, TX	9.4%
Phoenix, AZ	9.9%
Nashville, TN	10.3%
Orlando, FL	10.3%
Las Vegas, NV	10.8%

Source: CoreLogic Public Records and Author's Calculations

FIGURE 9. RETURNS HIGHEST IN METROS WITH OLDER FLIPS
Flipping Returns Strongly Correlated with Age of Houses Flipped



Source: CoreLogic Public Records and Author's Calculations.

distressed properties at deep discounts and quickly resell them at a profit. The fact that annualized returns diverge significantly from non-annualized returns suggests that flippers were quickly reselling their acquired properties, and indeed we find that the median days of flipped home decreased sharply from over 300 days in the mid-2000s to just under 200 days during the foreclosure crisis. Since then, the median time of a flip has rebounded slightly to around 220 days. This shift during the recession caused the annualized returns on home flipping to spike.

As mentioned above, we also find evidence that flippers are shifting away from price speculation and toward adding value to properties. How do we know this? By combining CoreLogic public records data with our robust statistical models, we can estimate the discount that a flipper received on a property when they purchased it, and the premium they received when they sold it, relative to similar properties that weren't flipped. These two metrics, along with market appreciation, are the three ways that flippers can make money on a home.

Just like we found that flippers were likely relying on price speculation from 2002–2007, we also find that they weren't particularly good at buying properties at a discount or selling them at a premium relative to other non-flipped but sold properties during the same time period. Since then, we've seen growing signs that flippers are getting increasingly good at buying properties at a discount while the premium they're selling for has remained mostly constant. This is yet more evidence that flipping today is less risky and less speculative than during the 2000s.

Continued on page 5

Special Report continued from page 4

What's more, the trend away from speculation and toward value-add might be due to an entrance of more experienced, professional flippers into the market. To explore this trend, we looked at the share of flipped homes that were sold by a business entity, such as an LLC, INC, or CORP, rather than by an individual. The trend has clearly been upward, with the share of flipped homes rising to a series high of 41.2 percent in the third quarter of 2018 from a series low of 11.4 percent in the third quarter of 2005.

Returns Highest in Areas with Older Housing

Like flipping rates, we also see substantial variation in economic returns to flipping across U.S. housing markets, with returns highest in the Rustbelt and lowest in the Sunbelt. At the high end, returns are highest in Detroit, Philadelphia, and Pittsburgh with returns of 95.9, 92.8, and 75 percent, respectively. The other seven markets with the highest economic returns to flipping are in Ohio, Maryland, Delaware, Wisconsin, and New York with returns ranging between 58.9 and 70 percent, respectively.

On the low end, flipping returns tend to be lowest in area that have newer housing stock. For example, the three markets with the lowest returns are Raleigh, Colorado Springs, and Charlotte, with returns of 5.1, 7.7, and 7.8 percent, respectively. The other seven markets with the lowest economic returns to flipping are in Arkansas, Missouri, Texas, Arizona, and Tennessee, Florida, and Nevada, with returns ranging between 8.4 and 10.8 percent, respectively.

We can see the relationship between age of homes flipped and economic profits by plotting the median age of home flips against the median economic profits of the 78 markets we have estimates of economic returns. The relationship is quite strong from a statistical perspective, with a R2 coefficient of 0.64. This means that 64 percent of the metropolitan-level variation in economic profits can be explained by the variation in the age of homes flipped.

Does this mean that home flippers are reaping more net profits in these older markets? Not so much. While gross economic returns are highest in places with older flips, they don't capture the amount of money that flippers invested into the flip. On the contrary, flips undertaken on older homes likely require more capital to bring the home up to market standard than newer homes. Such updates might include costly improvements to electrical systems, plumbing, foundations, and roofing. What this does tell us is that flippers are likely to reap substantial discounts when buying properties with such deferred maintenance. In future iterations of our work on flipping, we'll focus more explicitly on using our vast databases to estimate what improvement were made on a given property, the costs of such work, and thus the net economic profits earned by flippers.

For a more detailed description on the methodologies used in this analysis, please see the full white paper to be presented at the American Real Estate and Urban Economics Association National Conference in May 2019 [here](#). ■



While gross economic returns are highest in places with older flips, they don't capture the amount of money that flippers invested into the flip."

¹ CoreLogic defines flipping as the purchase of a property with the intent to sell within a two-year period for profit. CoreLogic uses the 24-month definition as that is the Internal Revenue Service's threshold for when real estate holdings could be considered owner-occupied and thus eligible for capital gains exemptions. The author diverges from previous CoreLogic work on flipping that uses a 12-month definition. This is because 12-month flips only capture flips that are subject to short-term capital gains tax, whereas properties flipped but held for 12-24 months are considered investments but subject to long-term capital gains tax. Since long-term capital gains tax rates tend to be lower than short-term capital gains tax rates, using the 24-month definition thus allows for a much broader analysis of investment in, and returns to, home flipping activity since some flippers may choose to hold properties longer than 12 months so that they may pay the lower long-term capital gains tax rate.

² CoreLogic measures returns as the annualized economic returns to flipping, which considers the opportunity costs of a flip (price growth of similar houses that weren't part of a flip), any market discount the flipper received on the purchase of the property, and any premium the flipper received on the sale of the property. Because CoreLogic does not observe the capital expenditures that an individual flipper deployed to undertake any renovations or repairs, our estimates of returns represent the upper bound of a return.

³ Consider this example: an investor purchases a property for \$100,000 and sells it a year later for \$200,000 after spending \$50,000 on renovations. In this case, they earned a 100 percent gross return and 50 percent net return. However, over the same year, an identical house next door that didn't have any work done to the property went up in value by \$25,000. In this scenario, the gross economic return to the investor would be 75 percent, since we exclude the \$25,000 the flipper would have made just from market appreciation. Considering the \$50,000 the investor put into the property as well as the \$25,000 market appreciation means the flipper earned \$25,000, or 25 percent, net economic profit.

Low Inventory Driving Rent Increases in Some Metros

U.S. Single-Family Rents Up 2.9 Percent Year Over Year in February

By Molly Boesel



Molly Boesel
Principal, Economist,
Office of the Chief Economist

Molly Boesel holds the title principal, economist for CoreLogic in the Office of the Chief Economist and is responsible for analyzing and forecasting housing and mortgage market trends.

- ▶ Rents for lower-priced homes increased faster than those of higher-price homes.
- ▶ Phoenix had the largest annual rent increase of the 20 analyzed areas in February.

U.S. single-family rents increased 2.9 percent year over year in February 2019, up from a 2.7 percent increase in February 2018, according to the CoreLogic Single-Family Rental Index (SFRI). The index measures rent changes among single-family rental homes, including condominiums, using a repeat-rent analysis to measure the same rental properties over time. Single-family rents climbed steadily starting in 2010, and annual rent increases have stabilized, fluctuating between 2.7 and 3.1 percent for the past 12 months.

Using the rental index to analyze specific price tiers reveals important differences. Figure 1 shows that the index's overall growth in February 2019 was propped up by low-end rentals, defined as properties with rents 75 percent or less of a region's median rent. Rents on lower-priced rental homes increased 3.7 percent year over year and rents for higher-priced homes,

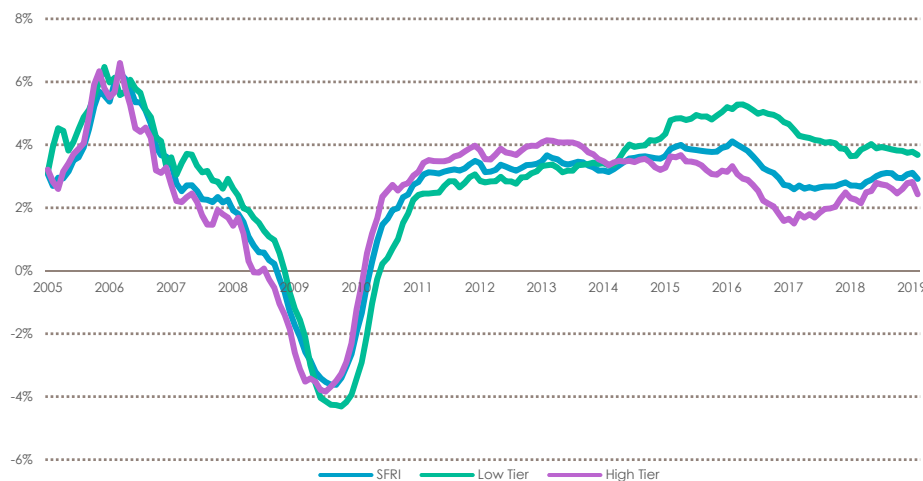
defined as properties with rents more than 125 percent of the regional median rent, increased 2.4 percent year over year. Both of these segments showed increased rent growth of 0.1 percentage points higher than in February 2018.

Rent growth varies significantly across metro areas¹. Figure 2 shows the year-over-year change in the rental index for 20 large metro areas in February 2019. Phoenix had the highest year-over-year rent growth this February with an increase of 8 percent, followed by Las Vegas (7.1 percent) and Tucson (6.5 percent). Orlando had the strongest year-over-year employment growth among the 20 metros in February, with job gains of 3.9 percent, and Phoenix had employment growth of 3.1 percent. This is compared with national employment growth of 1.7 percent. Miami had the lowest rent growth in February, increasing by just

Continued on page 7

¹ Metro areas used in this report are Core Based Statistical Areas. The SFRI is computed for 75 CBSAs.

FIGURE 1. NATIONAL SINGLE-FAMILY RENT INDEX
Year-Over-Year Percent Change by Price Tier



Source: CoreLogic Single-Family Rent Index, February 2019.

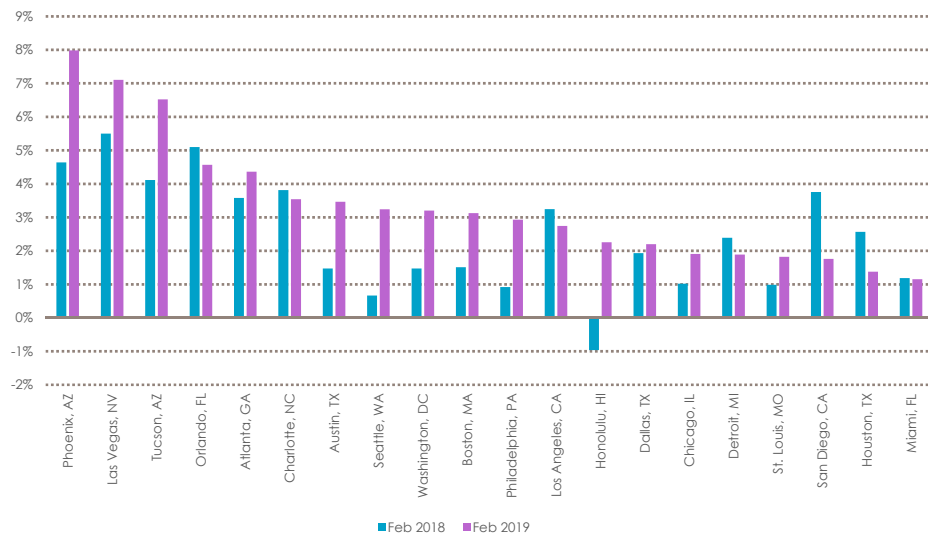
“Single-family rents climbed steadily starting in 2010, and annual rent increases have stabilized...”

Low Inventory Driving Rent Increases continued from page 6

1.2 percent from the prior year. In addition to high employment growth, Phoenix also had low rental supply, with only 1.9 months of

single-family rentals available at the current rental rate. In contrast, Miami had 7.6 months of single-family rentals available in February. ■

FIGURE 2. SINGLE-FAMILY RENT INDEX
Year-Over-Year Percent Change in 20 Markets



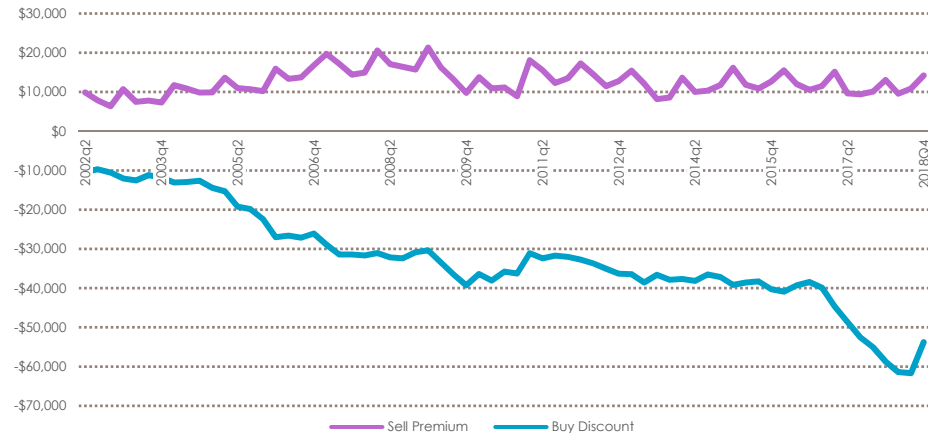
Source: CoreLogic.

Home Flipping continued from page 1

properties at a discount, either because the properties were legally, financially or physically distressed. This suggests that flippers have

shifted from speculating in the housing market to adding value, making flipping investments more sustainable in the long run. ■

FIGURE 3. FLIPPING RETURNS
Buy-Side Discount vs. Sell Side Premium



Source: CoreLogic

In the News

[The Wall Street Journal, April 9](#)

House Flipping Is Back to Pre-Crisis Levels. Here's Why It's Less of a Concern.

New analysis from CoreLogic Inc. suggests most of the current flips are less risky than those more than a decade ago...

[Fox 13 – WRVT in Tampa, April 10](#)

Experts: House flipping is back, but better than before

House flipping is back to nearly the same level as 2006, but a new report from CoreLogic Inc. indicates it's not as risky and wild as it was back then.

[HousingWire, April 10](#)

There haven't been this many house flippers since before the housing bubble burst

CoreLogic said there is a growing number of professional flippers in the market, with the percentage of properties sold by a business entity reaching 41% in Q3 2018...

[MReport, April 10](#)

Measuring Increases in House Flipping
Data from a CoreLogic special report indicates the house flipping rate has increased year over year for 12 consecutive quarters...

[Florida Realtors, April 11](#)

House flipping back to pre-crisis levels
According to CoreLogic, flips accounted for about 10.6 percent of homes sold in the fourth quarter of 2018 compared with 11.3 percent in the first quarter of 2006...

10 Largest CBSA — Loan Performance Insights Report January 2019

CBSA	30 Days or More			30 Days or More		
	Delinquency Rate January 2019 (%)	Serious Delinquency Rate January 2019 (%)	Foreclosure Rate January 2019 (%)	Delinquency Rate January 2018 (%)	Serious Delinquency Rate January 2018 (%)	Foreclosure Rate January 2018 (%)
Boston-Cambridge-Newton MA-NH	3.0	1.0	0.3	3.5	1.3	0.5
Chicago-Naperville-Elgin IL-IN-WI	4.3	1.7	0.6	4.9	2.2	0.8
Denver-Aurora-Lakewood CO	1.7	0.4	0.1	1.8	0.5	0.1
Houston-The Woodlands-Sugar Land TX	5.0	1.7	0.4	9.1	5.0	0.3
Las Vegas-Henderson-Paradise NV	3.5	1.5	0.6	4.3	2.2	0.9
Los Angeles-Long Beach-Anaheim CA	2.4	0.7	0.1	2.7	0.9	0.2
Miami-Fort Lauderdale-West Palm Beach FL	5.1	2.2	0.9	10.5	6.6	1.1
New York-Newark-Jersey City NY-NJ-PA	5.2	2.7	1.2	6.4	3.6	1.7
San Francisco-Oakland-Hayward CA	1.3	0.4	0.1	1.6	0.5	0.1
Washington-Arlington-Alexandria DC-VA-MD-WV	3.6	1.2	0.4	4.0	1.6	0.5

Source: CoreLogic January 2019

Home Price Index State-Level Detail — Combined Single Family Including Distressed February 2019

“During the first two months of the year, home-price growth continued to decelerate. This is the opposite of what we saw the last two years when price growth accelerated early. With the Federal Reserve’s announcement to keep short-term interest rates where they are for the rest of the year, we expect mortgage rates to remain low and be a boost for the spring buying season. A strong buying season could lead to a pickup in home-price growth later this year.”

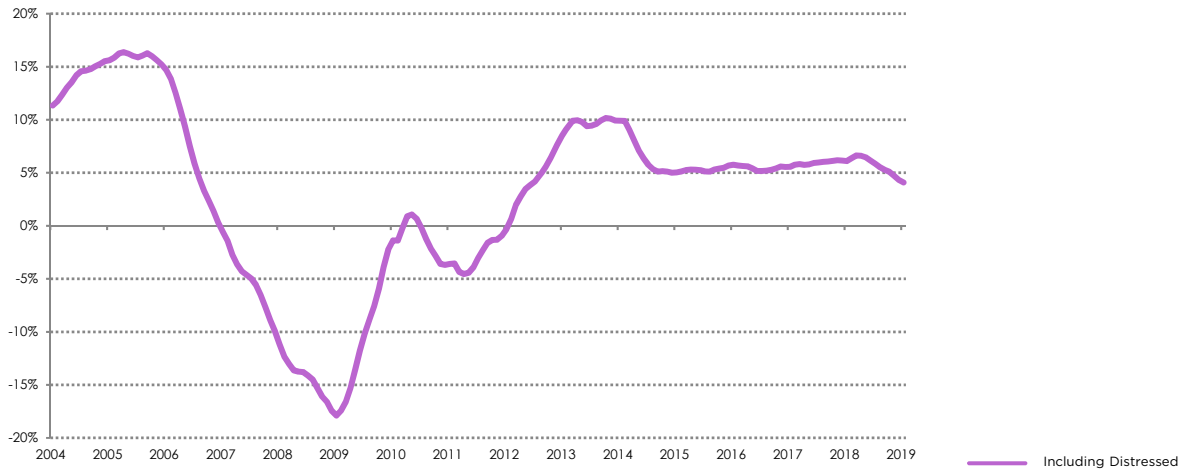
Dr. Frank Nothhaft,
chief economist for CoreLogic

State	Month-Over-Month Percent Change	Year-Over-Year Percent Change	Forecasted Month-Over-Month Percent Change	Forecasted Year-Over-Year Percent Change
Alabama	0.0%	4.1%	0.5%	5.7%
Alaska	0.5%	0.9%	0.8%	7.2%
Arizona	0.3%	6.6%	0.5%	5.9%
Arkansas	0.8%	3.8%	0.5%	4.8%
California	0.1%	2.9%	0.5%	10.0%
Colorado	0.9%	5.5%	0.5%	4.4%
Connecticut	-0.1%	1.1%	0.6%	7.1%
Delaware	-0.2%	2.0%	0.4%	5.0%
District of Columbia	0.2%	2.8%	0.5%	4.5%
Florida	0.0%	4.5%	0.5%	6.4%
Georgia	-0.3%	5.1%	0.4%	4.7%
Hawaii	0.9%	2.8%	0.7%	6.9%
Idaho	0.5%	10.2%	0.3%	4.8%
Illinois	-0.5%	2.0%	0.5%	6.3%
Indiana	0.8%	5.6%	0.6%	5.7%
Iowa	-0.2%	3.6%	0.5%	6.0%
Kansas	0.3%	3.2%	0.6%	5.3%
Kentucky	0.4%	4.4%	0.5%	4.7%
Louisiana	0.3%	0.4%	0.4%	2.9%
Maine	1.8%	5.1%	1.1%	7.0%
Maryland	-0.3%	1.7%	0.4%	5.0%
Massachusetts	-0.2%	3.4%	0.3%	6.2%
Michigan	0.0%	5.8%	0.5%	7.1%
Minnesota	0.2%	4.8%	0.5%	4.8%
Mississippi	-0.9%	4.7%	0.3%	4.3%
Missouri	0.7%	3.7%	0.6%	5.8%
Montana	-2.0%	1.3%	0.0%	3.8%
Nebraska	0.1%	4.1%	0.5%	5.0%
Nevada	0.0%	8.9%	0.4%	9.8%
New Hampshire	-0.2%	4.9%	0.5%	7.0%
New Jersey	0.2%	2.9%	0.9%	6.7%
New Mexico	0.1%	3.2%	0.4%	4.8%
New York	2.7%	4.5%	0.9%	6.5%
North Carolina	0.4%	4.4%	0.5%	5.0%
North Dakota	0.4%	-1.7%	0.5%	4.1%
Ohio	0.5%	5.4%	0.5%	5.2%
Oklahoma	0.0%	2.4%	0.4%	4.1%
Oregon	0.3%	4.5%	0.7%	7.2%
Pennsylvania	-0.4%	3.9%	0.5%	5.6%
Rhode Island	-0.8%	3.8%	0.2%	5.0%
South Carolina	0.3%	3.6%	0.5%	5.3%
South Dakota	0.3%	1.6%	0.5%	4.7%
Tennessee	0.0%	5.3%	0.4%	4.1%
Texas	-0.1%	3.5%	0.4%	2.5%
Utah	0.9%	8.7%	0.7%	5.1%
Vermont	0.2%	2.4%	0.7%	5.4%
Virginia	-0.2%	2.3%	0.4%	5.0%
Washington	0.9%	4.6%	0.6%	6.3%
West Virginia	-0.8%	5.3%	0.3%	5.5%
Wisconsin	-0.1%	5.3%	0.5%	5.5%
Wyoming	0.3%	4.5%	0.2%	4.5%

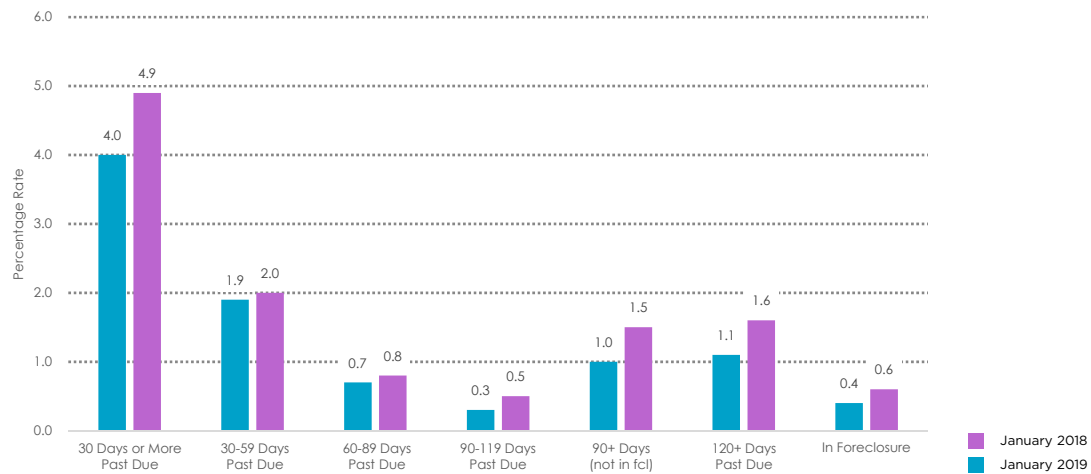
Source: CoreLogic February 2019

Charts & Graphs

HOME PRICE INDEX
Percentage Change Year Over Year



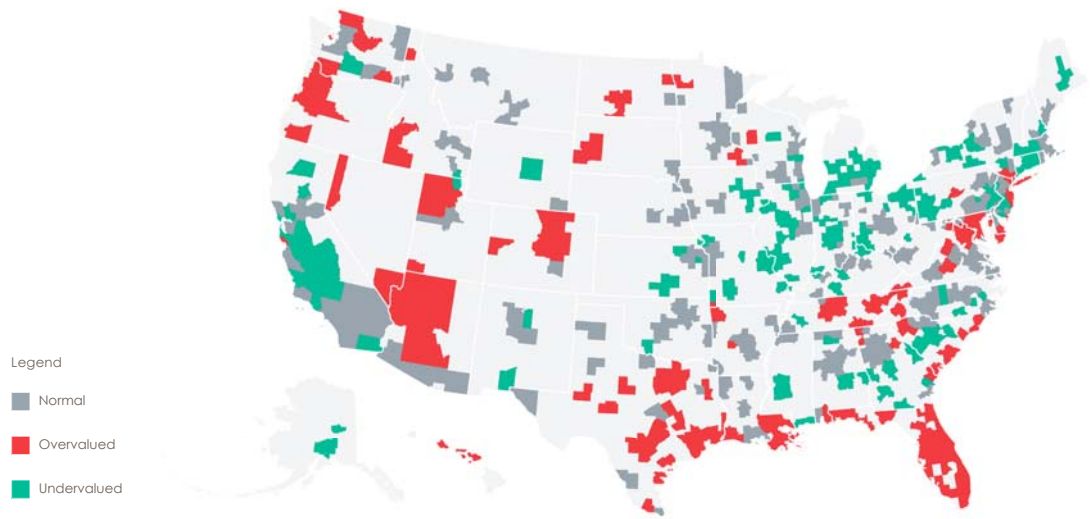
OVERVIEW OF LOAN PERFORMANCE
National Delinquency Rates



“As the economic expansion continues to create jobs and low mortgage rates support home buying this spring, delinquency rates are likely to trend lower during the coming year. The decline in delinquency rates has occurred in nearly all parts of the nation.”

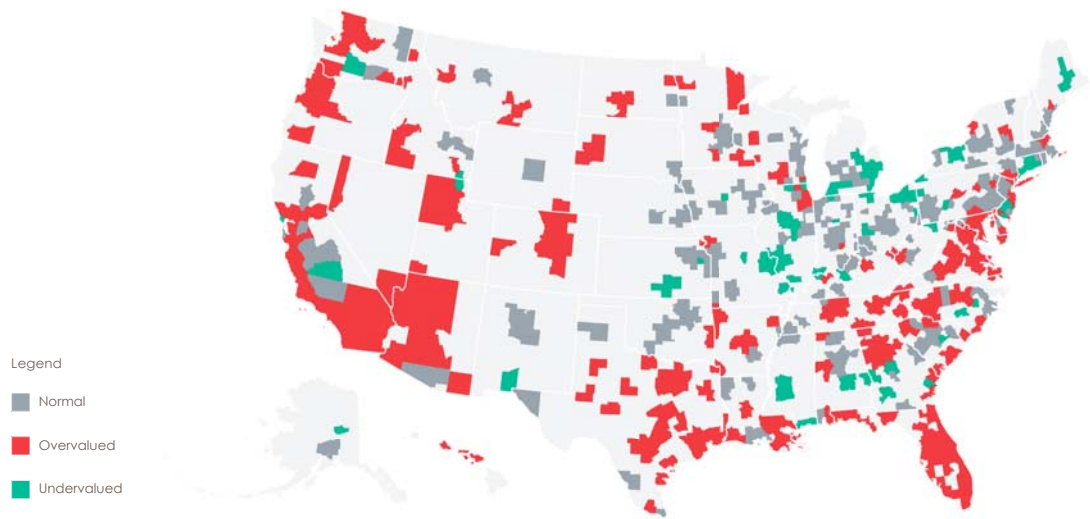
Frank Martell,
president and CEO of CoreLogic

CORELOGIC HPI® MARKET CONDITION OVERVIEW
February 2019



Source: CoreLogic
CoreLogic HPI Single Family Combined Tier, data through February 2019.
CoreLogic HPI Forecasts Single Family Combined Tier, starting in March 2019.

CORELOGIC HPI® MARKET CONDITION OVERVIEW
February 2024 Forecast



Source: CoreLogic
CoreLogic HPI Single Family Combined Tier, data through February 2019.
CoreLogic HPI Forecasts Single Family Combined Tier, starting in March 2019.

Variable Descriptions

Variable	Definition
Total Sales	The total number of all home-sale transactions during the month.
Total Sales 12-Month sum	The total number of all home-sale transactions for the last 12 months.
Total Sales YoY Change 12-Month sum	Percentage increase or decrease in current 12 months of total sales over the prior 12 months of total sales
New Home Sales	The total number of newly constructed residential housing units sold during the month.
New Home Sales Median Price	The median price for newly constructed residential housing units during the month.
Existing Home Sales	The number of previously constructed homes that were sold to an unaffiliated third party. DOES NOT INCLUDE REO AND SHORT SALES.
REO Sales	Number of bank owned properties that were sold to an unaffiliated third party.
REO Sales Share	The number of REO Sales in a given month divided by total sales.
REO Price Discount	The average price of a REO divided by the average price of an existing-home sale.
REO Pct	The count of loans in REO as a percentage of the overall count of loans for the reporting period.
Short Sales	The number of short sales. A short sale is a sale of real estate in which the sale proceeds fall short of the balance owed on the property's loan.
Short Sales Share	The number of Short Sales in a given month divided by total sales.
Short Sale Price Discount	The average price of a Short Sale divided by the average price of an existing-home sale.
Short Sale Pct	The count of loans in Short Sale as a percentage of the overall count of loans for the month.
Distressed Sales Share	The percentage of the total sales that were a distressed sale (REO or short sale).
Distressed Sales Share (sales 12-Month sum)	The sum of the REO Sales 12-month sum and the Short Sales 12-month sum divided by the total sales 12-month sum.
HPI MoM	Percent increase or decrease in HPI single family combined series over a month ago.
HPI YoY	Percent increase or decrease in HPI single family combined series over a year ago.
HPI MoM Excluding Distressed	Percent increase or decrease in HPI single family combined excluding distressed series over a month ago.
HPI YoY Excluding Distressed	Percent increase or decrease in HPI single family combined excluding distressed series over a year ago.
HPI Percent Change from Peak	Percent increase or decrease in HPI single family combined series from the respective peak value in the index.
90 Days + DQ Pct	The percentage of the overall loan count that are 90 or more days delinquent as of the reporting period. This percentage includes loans that are in foreclosure or REO.
Stock of 90+ Delinquencies YoY Chg	Percent change year-over-year of the number of 90+ day delinquencies in the current month.
Foreclosure Pct	The percentage of the overall loan count that is currently in foreclosure as of the reporting period.
Percent Change Stock of Foreclosures from Peak	Percent increase or decrease in the number of foreclosures from the respective peak number of foreclosures.
Pre-foreclosure Filings	The number of mortgages where the lender has initiated foreclosure proceedings and it has been made known through public notice (NOD).
Completed Foreclosures	A completed foreclosure occurs when a property is auctioned and results in either the purchase of the home at auction or the property is taken by the lender as part of their Real Estate Owned (REO) inventory.
Negative Equity Share	The percentage of mortgages in negative equity. The denominator for the negative equity percent is based on the number of mortgages from the public record.
Negative Equity	The number of mortgages in negative equity. Negative equity is calculated as the difference between the current value of the property and the origination value of the mortgage. If the mortgage debt is greater than the current value, the property is considered to be in a negative equity position. We estimate current UPB value, not origination value.
Months' Supply of Distressed Homes (total sales 12-Month avg)	The months it would take to sell off all homes currently in distress of 90 days delinquency or greater based on the current sales pace.
Price/Income Ratio	CoreLogic HPI™ divided by Nominal Personal Income provided by the Bureau of Economic Analysis and indexed to January 1976.
Conforming Prime Serious Delinquency Rate	The rate serious delinquency mortgages which are within the legislated purchase limits of Fannie Mae and Freddie Mac. The conforming limits are legislated by the Federal Housing Finance Agency (FHFA).
Jumbo Prime Serious Delinquency Rate	The rate serious delinquency mortgages which are larger than the legislated purchase limits of Fannie Mae and Freddie Mac. The conforming limits are legislated by the Federal Housing Finance Agency (FHFA).

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