December 2018

Housing Health Report

Housing authorizations show early indications of economic slowdown

- Following November's blanket declines, new and existing housing activity decreases in December.
- Single-family housing authorizations, one of the key predictive economic indicators of recessions, dips for two consecutive months.
- Simulation suggests recession probability could double between 2019 and 2020 if current trends persist.

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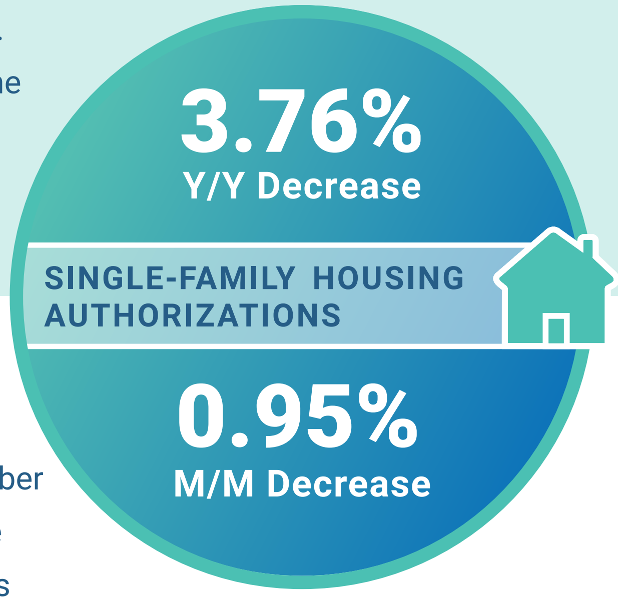
NEW HOUSING SUPPLY

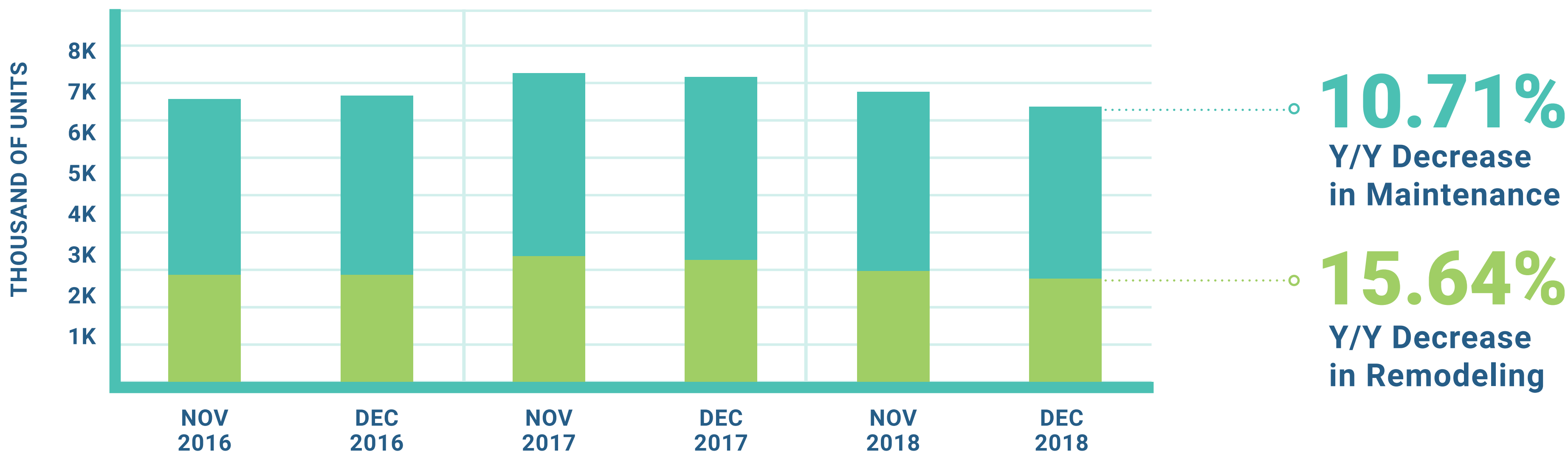
Single-family housing authorizations decreased 0.95 percent from November to December 2018. Year over year, December single-family housing authorizations decreased 3.76 percent. This is the second consecutive month that housing authorizations have declined. Unlike last month,[1] the trailing three-month outlook (October to December 2018) compared to last year is now also turning downward with a 1.22 percent decrease.



EXISTING HOUSING SUPPLY

Existing housing maintenance and remodeling, which encompass work on existing structures, also experienced the second consecutive month of decreases across most indicators. In December 2018, maintenance volume decreased at a year-over-year rate of 10.71 percent and maintenance spend decreased 8.03 percent. Existing remodel volume – a subset of maintenance that includes renovations, additions and alterations – decreased at a year-over-year rate of 15.64 percent. However, remodel spend, a consistently volatile subsection, increased 5.97 percent in December. This increase is likely a nod to 2018's high materials and labor cost resulting from increased tariffs and the effects of recent natural disasters.

EXISTING MAINTENANCE AND REMODEL VOLUME



[1]BuildFax Housing Health Report, November 2018

> **The potential for an economic downturn has been highly discussed over the past few months as more signals of a recession come into alignment. We've been tracking single-family housing authorizations daily for a more granular understanding of whether a decline might be on the horizon.**
>
> **We've also been monitoring interest rate activity, changes to home prices and housing supply growth to further gauge any impending shift in the economy. While this is only the second consecutive month of declining indicators, this shift is in stark contrast to the white-hot housing market that the U.S. has experienced since 2013.**

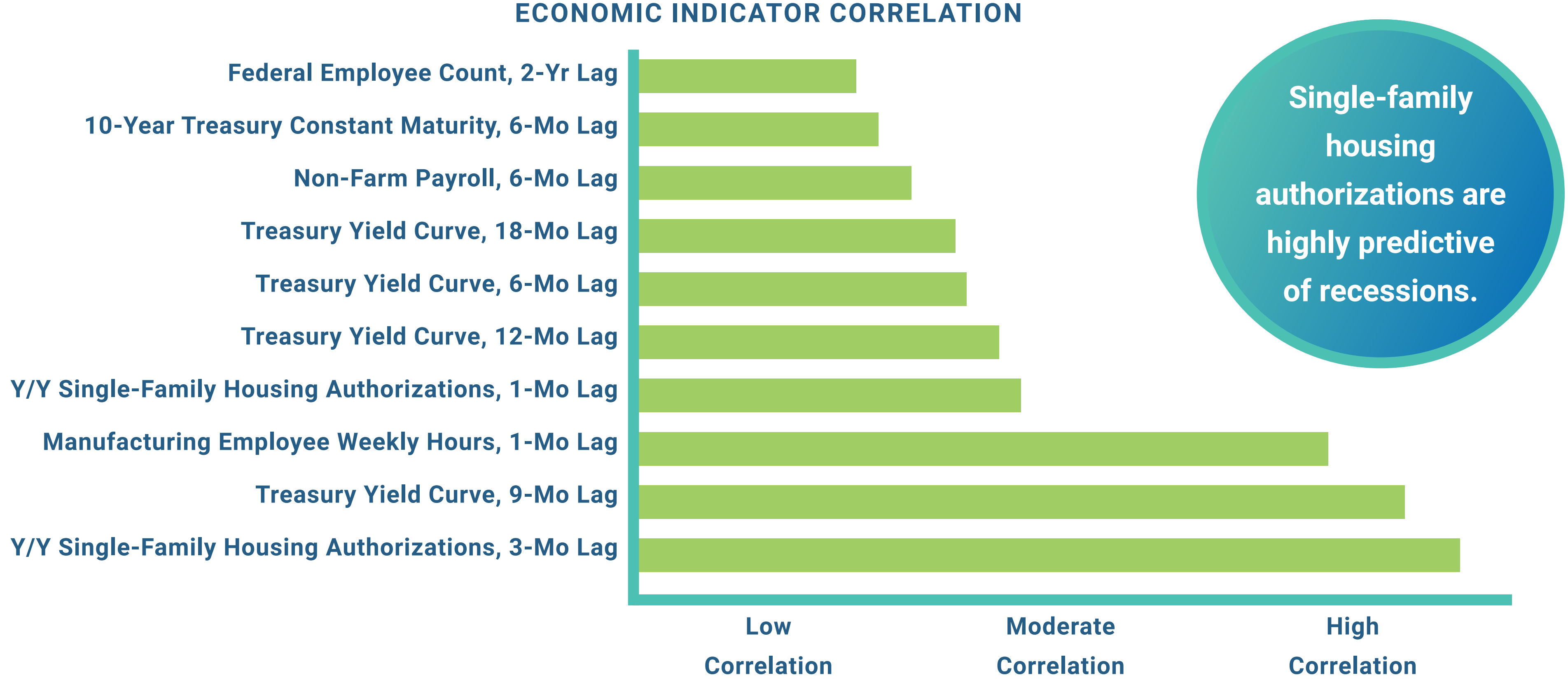
HOLLY TACHOVSKY, CEO, BUILDFAX

COMPARATIVE ANALYSIS OF SINGLE-FAMILY HOUSING AUTHORIZATIONS

Over the last few months, leading financial institutions and economists have looked to BuildFax to provide additional context on whether a downturn is on the horizon. Single-family housing authorizations are among the earliest and most predictive indicators of a recession and can provide a leading indication to the health of the economy.

Historically, when compared to other factors, U.S. housing authorization activity has one of the highest correlations with each economic downturn between 1961 and 2018. Other highly correlated factors include: the U.S. Treasury yield curve, average weekly hours of manufacturing employees, payroll for non-farm workers (80 percent of the workforce that contributes to gross domestic product) and federal employee count. The below chart[2] illustrates single-family housing authorizations have the highest correlation of the economic indicators listed, and will be important to consider as we monitor this two-month declining trend over the next few quarters.

ECONOMIC INDICATOR CORRELATION



[2]*Data for above analysis pulled from Federal Reserve Economic Data (FRED) and BuildFax.*

SIMULATION: THE PROBABILITY OF A U.S. ECONOMIC RECESSION

With the 10-year anniversary of the Great Recession in the rear view mirror and booming growth in the economy since 2013, it's understandable why a slowing housing market has sparked increased concern of another decline.

The U.S. economy experienced banner growth in housing authorizations in 2012 and 2013 – between 15 and 25 percent annualized growth. Between 2014 and 2017, authorizations grew steadily, averaging 8 percent annualized growth. Last year was the first time since 2013 that the economy experienced some leveling off, with annualized growth of housing authorizations at only 3 percent.

A BuildFax simulation suggests the likelihood of a recession will almost double between 2019 and early 2020 – reaching a 43 percent probability of an economic recession. This assumes single-family housing authorizations will continue to plateau with an annualized growth rate of just 2 percent. It also assumes a number of indicators[3] will continue to follow projected patterns. The simulation does not signal an imminent recession, but it may become a red flag if these key factors diverge from anticipated trends.

PROBABILITY OF A RECESSION OVER TIME

Time Horizon	Recession Probability
1-Month	23%
3-Month	30%
6-Month	30%
12-Month	43%

Simulation assumes all other factors remain constant.

The probability of a recession doubles between 2019 and 2020.

[3] See data methodology

> Under current conditions, we anticipate single-family housing authorizations to be a must-watch indicator in 2019 and as we move into 2020. However, more than a few critical economic factors must align before a recession is imminent.
>
> More so now than in months prior, insight into the daily movements of housing indicators provides a stronger understanding of how the market is expected to move, and how fast it will move in a specific direction.

JONATHAN KANAREK, COO, BUILDFAX

ABOUT BUILDFAX

BuildFax, headquartered in Austin, Texas, is trusted by the largest insurance and financial institutions in the world to deliver business-critical property condition and history data. With the only database of its kind encompassing more than 23 billion data points on commercial and residential structures, BuildFax delivers detailed data on remodeling, solar installations, new construction, roof age, major systems, maintenance history and more.

METHODOLOGY

BuildFax conducted this study by examining properties in the U.S. between the years 2013 and 2018. The statistics in this report are calculated using sampled data from across the U.S. All data is seasonally adjusted and imputed to reflect numbers representative of the entire country. Due to historical revisions made by permitting authorities, the data is subject to change. Estimates are as of January 8, 2019.

[2]The BuildFax simulation considered 14 features when evaluating the probability of a recession, including: AAA corporate bond yield, average hourly earnings (construction), average hourly earnings (manufacturing), average hours worked (manufacturing), federal employee count, state employee count, local government employee count, industrial production index, personal income, civilian employment level, all non-farm employees, one-year U.S. Treasury constant maturity rate, 10-year U.S. Treasury constant maturity rate, and the U.S. Treasury yield curve. Each indicator is projected to maintain a constant trend either decreasing, increasing, or remaining level. Changes to these factors contrary to the simulation's forecast invalidate the recession probabilities. Data for the correlation analysis pulled from Federal Reserve Economic Data (FRED) and BuildFax.

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