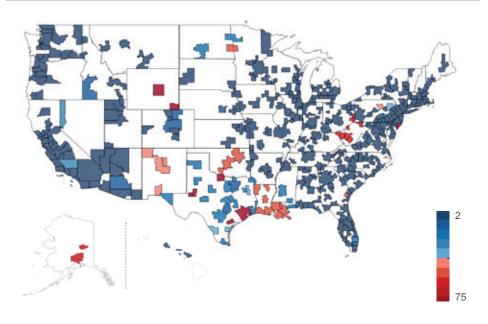


## Predictions for 2017, 2018, and Beyond!

2016 was a solid year for housing, with many positive trends. Will these continue? Below are 10 housing market predictions for the next few years. Weighing the positive and the negative, we remain optimistic overall about home prices, but to the detriment of future affordability.

- Home prices and rents will rise faster than incomes. The rental market remains strong with low vacancy rates, while the inventory of single-family homes for sale continues to be very tight in many cities across the country.
  - a. Prices and rents will rise in the
     3-6% range nationally, thanks
     to more demand than supply.
  - b. The regions most highly dependent on energy extraction will see a continued slowing of home price growth in the near term, but all 50 states should experience continued positive home price growth.
  - c. Housing will become less affordable, hurting Millennials and renters the most. With future interest-rate increases also set to hurt affordability, this suggests that the sooner someone who is willing and able makes the jump from renting to owning, the better.

#### **ARCH MI RISK INDEX**® (LATEST VALUES SHOWN FOR EACH MSA)



The Arch MI Risk Index estimates the probability home prices will be lower in 2 years, times 100. The higher the Risk Index value, the more likely an area is to experience slower than normal economic and home price growth, and the more likely it is to see outright home price declines. The Arch MI Risk Index uses a statistical model based on regional unemployment rates, affordability, net migration, housing starts, the percentage of delinquent mortgages, the difference between actual and estimated fundamental home prices (based on income), etc. We make manual adjustments for unmodeled factors, such as energy prices. Risk Index values for 401 cities are available on the Risk Index link at <a href="marchmi.com/hammr">archmi.com/hammr</a>, and the Housing and Mortgage Market Review.

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Article continued on next page.





With **no housing bubble in sight**, the risk of home price declines remains near rock bottom. The probability of home prices being lower in 2 years is unusually low in the vast majority of cities, according to our analysis and predictive models.

- 3. Policy Changes will stimulate demand more than supply pushing up prices.
  - a. Overly tight lending guidelines will be rolled back, helping demand (the Urban Institute estimates more than 1 million potential borrowers a year have been shut out of the housing market by overly restrictive guidelines). Incoming policymakers in Washington, D.C., will reverse some of the multifaceted constraints on prudent lending.
  - **b. Impact on supply will be limited**. Much of the drag on supply comes from higher building fees in recent years and local governments' tight building restrictions, which will not be affected much by changes in Washington.
- **4. Wide variation in home price growth**, depending on the strength of local economic conditions. Job growth has been almost entirely concentrated in large and midsize cities (pushing up housing costs), while most rural areas are still hurting and unlikely to bounce back quickly. Also, the most rapid price growth has been, and will continue to be, in areas close to downtowns, areas with high-income or high-education levels, areas popular with foreigners and retiring baby boomers, and tech centers. Societal changes, including the rise of the sharing economy, also favor housing in popular urban areas.

#### Based on our estimate of the growth in the total number of households, total construction of new single-family and multifamily units needs to keep ramping up for several more years. We estimate construction needs are closer to 1.4M units a year, compared to actual housing starts now of around

5. Residential construction increases 5-15% a year.

1.2M, up from 1.0M in 2015. Purchase originations will grow 10-15% a year as cash purchases decline and construction increases. On top of that, there is also some pent-up demand from Millennials that will add to demand as wage growth finally picks up with the tightening labor market.



Mortgage rates will continue to rise,

perhaps by half a percentage point a year for several years. While rates are notoriously hard to predict, the Federal Reserve is forecasting increases of between 0.5% and 1% in 2017. partly because low

unemployment is finally starting to cause an acceleration in wage growth. Historically, rising rates only caused temporary, mild slowdowns in sales of 5-10% and home prices still increased, but at a lower rate (please see the Spring 2016 HaMMR for a more detailed analysis). Implications include:

- a. Total originations fall as refinance loans are in less demand.
- b. Long loan-life. Borrows with low mortgage rates will stick around in lenders' portfolios longer than usual, hurting lenders' interest-rate spread income.
- **c.** Fewer trade-up home sales, keeping inventory tight. Borrowers with low-rate mortgages have a financial incentive to keep their existing home and to use a home improvement second lien if they want to upgrade their home.

- 7. Relatively cheap gas will keep growth weakest in the Energy Patch, at least over the next few years. Short of a major supply disruption, prices should average below \$60 a barrel for the foreseeable future, due to the increasing productivity of U.S. drillers. Most areas, including Texas, will avoid recession.
- 8. Homeownership rates will continue to sag.

The trend towards more high and low skilled jobs at the expense of the middle class will likely continue (one estimate is that the middle class has shrunk by 20% or more since 1970). This is primarily due to technological innovations and free trade. The other big factor is that most new households will consist of minorities, who historically have had lower homeownership rates.

**9. Positive economic growth, but no boom**. A rate of 2% annual GDP growth is probably the new normal. This is because productivity growth remains weak (it has been said that smartphones and computers are everywhere, except in the productivity data). Also, roughly 0.5% a year of growth for 10+ years before the housing crash was from unsustainable increases in consumer debt. One implication is that there will be more false recession scares as an occasional weak growth number sparks fears of the economy stalling out.



Financial markets will be more volatile, driven by increased political uncertainty, both in the United States and globally. The next "black swan," or unexpected shock, could come from greater concern about European integration,

an emerging markets financial crisis due to the rising dollar, or increased military tensions in the Middle East, or even in Asia or Europe. Stock prices mostly impact high-end housing, which stands to benefit from income and corporate tax cuts.

We hope you found this list thought-provoking. Of course, the wildcards will always be with us. What is clear is that housing remains a promising investment, and a very interesting field to work in.

# **Arch MI State-Level Risk Index**

	Arch MI Risk Index			ual Home l ange (FHF		Affordab	ility Index	Unemployment Rate		
State	Risk Ranking	2016 Q3	1-Year Change	2016 Q3	2015 Q3	Volatility	2016 Q3	1-Year Change	2016 Q3	1-Year Change
Wyoming	Elevated	38	1	1.5	4.7	Normal	215	21	5.5	1.2
North Dakota	Elevated	36	-10	2.7	6.1	Normal	212	16	3.1	0.4
Alaska	Moderate	26	-7	1.7	3.4	Low	230	27	6.8	0.4
West Virginia	Moderate	22	-11	1.6	2.9	High	267	30	5.7	-1.0
Oklahoma	Moderate	21	-7	3.9	4.2	Low	286	26	5.1	0.9
Louisiana	Moderate	19	-9	3.6	4.2	Low	261	28	6.3	0.3
New Mexico	Moderate	17	-14	2.3	2.8	Low	253	30	6.6	0.0
Mississippi	Low	9	1	2.6	3.8	Low	270	33	6.0	-0.3
Texas	Low	8	-18	7.5	8.2	Low	218	20	4.7	0.3
Colorado	Low	5	3	9.7	12.5	High	203	13	3.7	0.0
Idaho	Low	4	2	8.2	6.9	Normal	203	14	3.8	-0.3
Nevada	Low	4	2	9.4	10.8	Normal	205	16	6.2	-0.3
Arizona	Low	4	2	6.3	7.5	Normal	203	20	5.8	-0.4
Florida		3	1	9.6	10.0		190	15	4.7	-0.2
	Low		0			Low				
Alabama	Minimal	2		4.2	3.0	Low	268	30	5.5	-0.6
Arkansas	Minimal	2	0	3.2	3.1	Normal	279	33	3.9	-1.2
California	Minimal	2	0	6.4	7.7	Normal	187	18	5.5	-0.5
Connecticut	Minimal	2	0	1.1	1.2	Low	258	34	5.6	0.2
Delaware	Minimal	2	0	3.3	2.2	Normal	209	22	4.3	-0.6
District of Columbia	Minimal	2	0	6.1	8.1	Normal	173	20	6.0	-0.7
Georgia	Minimal	2	0	6.7	6.6	Normal	247	26	5.0	-0.6
Hawaii	Minimal	2	-1	6.6	6.4	Low	158	15	3.4	-0.1
Illinois	Minimal	2	0	3.6	3.2	Low	275	32	5.6	-0.2
Indiana	Minimal	2	0	4.7	3.6	Low	272	30	4.5	0.0
lowa	Minimal	2	0	3.9	3.4	Low	267	29	4.2	0.6
Kansas	Minimal	2	0	5.0	3.5	Normal	283	29	4.2	0.2
Kentucky	Minimal	2	0	4.7	3.8	Low	254	25	5.0	-0.4
Maine	Minimal	2	0	5.1	2.4	Normal	221	24	4.0	-0.3
Maryland	Minimal	2	0	3.4	2.6	Low	207	25	4.3	-0.8
Massachusetts	Minimal	2	0	4.8	4.8	Low	231	26	3.9	-0.9
Michigan	Minimal	2	0	5.3	5.8	Normal	301	31	4.5	-0.6
Minnesota	Minimal	2	0	4.6	4.6	Normal	240	25	4.0	0.4
Missouri	Minimal	2	0	5.3	3.7	Low	260	25	5.0	0.3
Montana	Minimal	2	0	4.2	4.7	Normal	219	26	4.3	0.2
Nebraska	Minimal	2	0	4.3	5.2	Normal	263	28	3.2	0.2
New Hampshire	Minimal	2	0	4.2	4.4	Low	232	26	2.9	-0.4
New Jersey	Minimal	2	0	2.8	3.0	Low	224	26	5.3	-0.1
New York	Minimal	2	0	3.5	3.7	Low	216	25	4.8	-0.2
North Carolina	Minimal	2	0	5.9	4.6	Low	251	27	4.7	-1.0
Ohio	Minimal	2	0	4.8	4.2	Normal	305	31	4.8	0.1
Oregon	Minimal	2	0	10.8	10.4	High	192	13	5.4	-0.4
Pennsylvania	Minimal	2	0	3.8	2.7	Low	237	25	5.7	0.7
Rhode Island	Minimal	2	0	4.9	4.2	Normal	231	23	5.6	-0.2
South Carolina	Minimal	2	0	5.8	5.3	Low	249	27	5.1	-0.5
South Dakota	Minimal	2	0	4.5	4.8	Low	243	22	2.9	-0.3
Tennessee	Minimal	2	0	6.1	5.6	Low	252	26	4.4	-1.2
Utah	Minimal	2	0	7.7	6.1	Low	242	23	3.7	0.2
Vermont	Minimal	2	0	1.6	2.3	Normal	212	27	3.3	-0.4
Virginia	Minimal	2	0	3.2	2.9	Low	226	26	3.9	-0.4
Washington	Minimal	2	0	11.0	8.8	Normal	200	14	5.7	0.1
Wisconsin	Minimal	2	0	4.4	3.5	Low	268	28	4.2	-0.4
Pop. Weighted Average		4	0	5.8	5.9		229	23	5.0	-0.2

### Arch MI State-Level Risk Index

		ortgages lys Late		ortgages eclosure	% of M Sub	ortgages prime	
State	2016 Q3	1-Year Change	2016 Q3	1-Year Change	2016 Q3	1-Year Change	
Wyoming	0.8	0.1	0.7	0.1	3.6	-0.1	
North Dakota	0.4	0.1	0.8	0.2	4.6	0.1	
Alaska	0.5	0.0	0.6	-0.1	5.9	-0.5	
West Virginia	1.1	0.0	1.1	-0.1	5.8	-0.4	
Oklahoma	1.0	-0.1	1.9	-0.2	6.2	-0.5	
Louisiana	1.5	0.2	1.6	-0.1	6.6	-0.3	
New Mexico	0.7	0.0	2.4	-0.3	5.8	0.2	
Mississippi	1.5	-0.1	1.3	-0.3	8.7	-0.3	
Texas	1.0	-0.1	0.8	-0.1	7.2	-0.5	
Colorado	0.4	-0.1	0.4	-0.2	5.8	-0.1	
Idaho	0.5	-0.1	0.7	-0.2	6.3	-0.1	
Nevada	0.5	-0.1	2.0	-0.6	9.0	0.3	
Arizona	0.6	-0.1	0.5	-0.2	6.4	0.0	
Florida	0.7	-0.1	2.5	-1.0	10.2	-0.2	
New Hampshire	1.1	-0.1	1.1	-0.3	5.6	-0.3	
Illinois	0.9	-0.1	1.1	-0.4	6.0	-0.3	
Nebraska	0.5	-0.1	0.6	-0.2	8.1	0.5	
Missouri	0.9	-0.1	2.3	-0.2	7.9	-0.1	
Hawaii	0.8	-0.1	2.3	-0.3	6.6	0.1	
Minnesota	0.6	0.0	2.7	-0.3	6.4	0.1	
Washington	1.0	-0.1	1.0	-0.3	7.2	0.0	
Wisconsin							
	0.4	-0.1	2.8	-0.1	7.4	0.5	
Montana	0.8	0.0	1.9 1.7	-0.5	7.5 7.9	0.1	
Connecticut Indiana	1.0 0.7	-0.1 0.0	1.7	-0.4 -0.3	6.0	-0.2 0.1	
				-0.3			
New Jersey	0.8	0.0	1.2		5.8	-0.2	
Vermont	0.8	-0.1	1.7	-0.3	8.4	-0.1	
Massachusetts	0.7	-0.2	3.0	-0.1	7.9	-0.3	
Utah Carath Dalasta	0.9	-0.1	1.9	-0.6	7.9	0.2	
South Dakota	0.7	-0.1	1.9	-0.3	7.0	-0.1	
South Carolina	0.8	-0.1	0.7	-0.3	7.3	-0.1	
Maine	0.5	-0.1	0.6	-0.2	6.3	0.0	
Rhode Island	0.8	-0.1	0.8	-0.2	7.6	0.0	
Pennsylvania	0.4	0.0	0.7	-0.1	4.0	0.0	
Oregon	0.6	0.0	0.6	-0.2	8.5	0.0	
California	0.7	-0.1	0.9	-0.3	6.4	0.0	
Maryland	0.8	-0.1	5.8	-0.7	7.7	0.3	
Tennessee	0.8	-0.1	4.3	-0.5	9.2	0.1	
Georgia	0.9	-0.1	1.0	-0.2	5.9	-0.2	
Michigan	0.9	-0.1	1.9	-0.4	9.5	-0.2	
Virginia	0.4	-0.1	1.5	-0.5	7.8	-0.1	
District of Columbia	1.1	-0.1	1.9	-0.4	7.2	-0.4	
Kentucky	0.9	0.0	2.0	-0.6	8.4	-0.2	
Ohio	0.9	-0.2	1.5	-0.3	6.8	-0.3	
Kansas	0.5	0.0	0.8	0.0	4.2	-0.1	
North Carolina	1.0	-0.1	0.9	-0.2	8.0	-0.3	
Alabama	0.6	-0.1	0.6	-0.2	4.8	0.1	
Arkansas	0.6	0.0	2.2	-0.2	5.1	0.1	
Delaware	0.7	-0.1	0.6	-0.2	5.4	0.0	
lowa	0.4	0.0	1.1	-0.5	6.3	0.1	
New York	0.7	0.0	1.4	0.0	6.9	1.0	
Pop. Weighted Average	0.8	-0.1	1.6	-0.3	7.6	0.0	

#### **EXPLANATORY NOTES**

**The Arch MI Risk Index**, both at the state and MSA level, estimates the probability of home prices being lower in 2 years, times 100. For example, a score of 20 means the model estimates a 20% chance the FHFA All-Transactions Regional Home Price Index (HPI) will be lower 2 years from the date of the input data release. The **Risk Ranking** column is a mapping of the Risk Index values into buckets, while the next column shows the actual Risk Index values.

Home Price Changes: The first column is the most recent year-over-year percentage change in the FHFA All-Transactions HPl. The next column is the annual HPl change from a year earlier. The *Volatility* column is our ranking based on the standard deviation of the HPl since 1985. Recent price appreciation is an indicator of strength in the local housing market and is generally correlated with near-term future price changes.

**Affordability Index**: A value of 100 means a family with the median income has exactly enough income to qualify for a mortgage on a median-priced home. The higher the value, the more affordable homes are. Sources: U.S. Bureau of Economic Analysis; Moody's Analytics; Arch MI. Estimated.

**Unemployment Rates** are seasonally adjusted Bureau of Labor Statistics state and MSA-wide quarterly averages.

% of Mortgages 60+ Days Late, etc., is from the Mortgage Bankers Association's National Delinquency Survey and is not seasonally adjusted.

Historical Risk Index scores change as revisions to source data become available. The largest changes are typically from HPI revisions.

#### **CONTRIBUTORS**

#### Ralph DeFranco, Ph.D.,

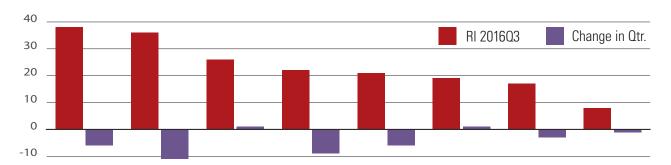
Global Chief Economist Mortgage Services Arch Capital Services Inc.

#### Scott Fawver.

Econometrician Arch MI

### States with the Highest Risk Index Values

The largest changes this quarter are in states with large energy-extraction sectors. Higher energy prices, combined with signs that employment is stabilizing in some regions, has resulted in lower home price risk in energy states. The exceptions are Alaska and Louisiana, which remain sluggish and have higher production costs than areas such as Texas and Oklahoma.



-20	Wyoming	North Dakota	Alaska	West Virginia	Oklahoma	Louisiana	New Mexico	Texas
RI 2016Q3	38	36	26	22	21	19	17	8
Change in Qtr.	-6	-11	1	-9	-6	1	-3	-1

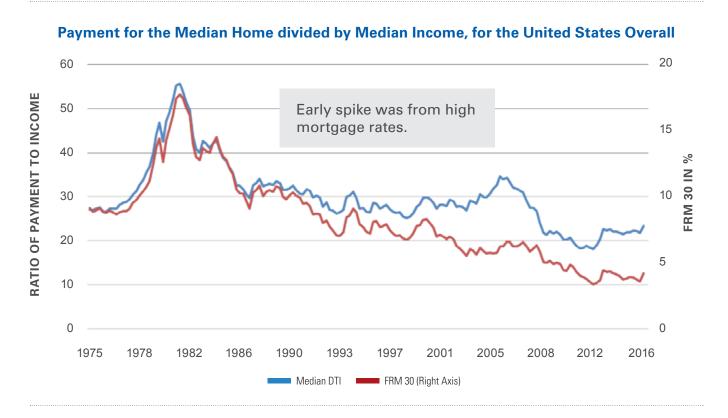
State	Summary of Current Conditions	Drivers of Change From Prior Quarter
Wyoming	In recession, due to 20% drop in mining employment.	Home price growth ticked up in Q3.
North Dakota	We estimate home prices are overvalued by 22.5%.	Recession appears to be ending as declines in total employment appear to have stabilized.
Alaska	Still in recession, with the highest unemployment rate in the country.	Home price growth is slowing and total employment is falling.
West Virginia	Economy may be beginning to stabilize: payroll employment stopped falling after 4 years of layoffs in the coal industry.	Coal prices have increased recently due to Chinese production cuts. Home prices are rising around 3% a year but home sales are down by a third.
Oklahoma	Energy and manufacturing remain weak. Home sales lagged as employment declined further.	Higher energy prices will have a large impact.
Louisiana	At risk of recession. Employment in goods-producing sectors continue to shrink about 4% a year. Government payrolls continue to fall, adding to the weakness.	Manufacturing continued to weaken. High break-even points on energy extraction imply a slower recovery than in most regions.
New Mexico	At risk of a recession, due to government- and energy-related job losses.	Home price growth is relatively weak at 2.3% year-over-year. Total employment fell slightly but should turn around in 2017.
Texas	Total employment growth is sluggish, but remains the strongest of the energy states.	If higher energy prices last, growth rates will pick up.

### America's Most and Least Affordable Cities

U.S. home prices are back to all-time highs nationally and mortgage rates are up over 0.5% since the election. Nevertheless, home purchase affordability remains highly favorable in a historical context.

Just how favorable? Affordability is 1/3 better than it was 10 years ago, and 1/4 better than the average of the past 40 years. At \$1,100, the monthly interest and principal needed to get a mortgage on a median-priced home in the United States only takes 23% of the median household's pre-tax income, compared to 32% at the end of 2006.

The bad news is that, with both mortgage rates expected to rise and home prices rising faster than incomes, we expect affordability to only worsen from here.



To understand affordability across cities and across time, we created what we call the "median DTI," the ratio of (payment needed to purchase the median house) ÷ (median household income), akin to the Debt-to-Income (DTI) ratio for a mortgage payment.

We assume a 10% down payment, a 30-year fixed-mortgage rate of 4.1% +0.75% to cover mortgage insurance, add-ons, etc., and we exclude expenses such as insurance, dues and property taxes since they vary widely by location.

#### Median DTI fun facts:

- If mortgage rates rise to 6%, with today's home prices that still only gives a value of 26%. However, more expensive areas take a larger hit – California would go from 44% to 50%.
- The year-end 0.5% increase in mortgage rates raised the Median DTI for the United States by 1.5% and around 3% in California and Hawaii.
- Housing in the United States is very cheap compared to most countries: For example, we estimate that Australia's overall Median DTI is 53% (on a 30-year mortgage) and a painful 75% in Sydney.

#### Least and Most Affordable Cites Among the U.S.'s Largest 100 Cities

LEAST Affordable Cites	MEDIAN HOME PRICE	PAYMENT ON MEDIAN HOUSE	MEDIAN DTI	MOST Affordable Cites	MEDIAN HOME PRICE	PAYMENT ON MEDIAN HOUSE	MEDIAN DTI
San Francisco, CA	\$1,060,102	\$5,093	58%	St. Louis, MO	\$157,631	\$757	15%
San Jose, CA	\$1,030,135	\$4,949	55%	Grand Rapids, MI	\$154,063	\$740	15%
Honolulu, HI	\$722,331	\$3,470	53%	Warren, MI	\$173,594	\$834	15%
Anaheim, CA	\$728,659	\$3,500	51%	Gary, IN	\$142,789	\$686	15%
San Diego, CA	\$578,180	\$2,778	47%	McAllen, TX	\$92,889	\$446	15%
Los Angeles,CA	\$498,830	\$2,396	46%	Omaha, NE	\$163,957	\$788	15%
Oakland, CA	\$673,887	\$3,237	45%	Cincinnati, OH	\$150,634	\$724	15%
Miami, FL	\$324,394	\$1,558	41%	Dayton, OH	\$130,028	\$625	14%
Oxnard, CA	\$560,861	\$2,694	38%	Pittsburgh, PA	\$140,868	\$677	14%
New York City,* NY	\$365,780	\$1,757	33%	Buffalo, NY	\$128,486	\$617	14%
Boston, MA	\$417,751	\$2,007	31%	Cleveland, OH	\$129,815	\$624	14%
Riverside, CA	\$311,567	\$1,497	31%	Rochester, NY	\$130,270	\$626	14%
Seattle, WA	\$448,442	\$2,154	31%	Akron, OH	\$123,066	\$591	13%
Portland, OR	\$352,310	\$1,692	30%	Syracuse, NY	\$124,759	\$599	12%
Denver, CO	\$381,949	\$1,835	30%	Detroit, MI	\$90,095	\$433	12%

<sup>\*&</sup>quot;New York City" here refers to the rather expansive Metropolitan Statistical Area region.

#### Payment for the Median Home divided by Median Income, Select Cities



### Are you reading Arch MI's HaMMR?

It's an Arch MI exclusive – one of the industry's best reports on where housing markets are heading, regionally and nationwide!



Released quarterly, Arch MI's Housing and Mortgage Market Review®, or HaMMR, presents deep-dive analysis of the key data affecting home prices, highlighting trends, identifying challenges, and explaining anomalies.

Authored by **Ralph DeFranco**, Global Chief Economist, Mortgage Services for Arch Capital Services Inc., HaMMR is the go-to resource for mortgage leaders, risk management experts, and the national media.

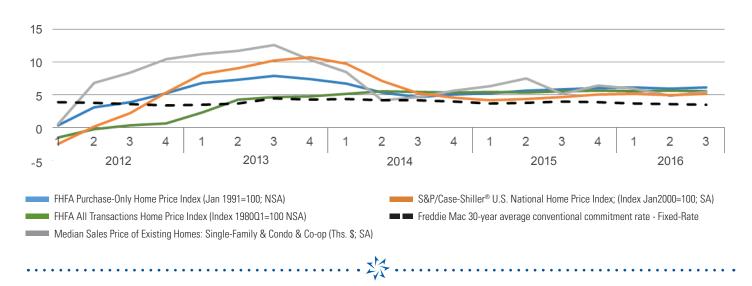
#### **Each issue features:**

- Headline stories focusing on the current state of housing markets.
- Special features exploring regional issues.
- The Arch MI Risk Index®, which addresses the probability that home prices will be lower in 2 years, on both the state and MSA level. This index is based on a statistical model using local economic and housing market data, such as affordability, unemployment rates, housing starts, foreclosure rates, and other key statistics.

Get the latest HaMMR and its data each quarter at archmi.com/hammr!



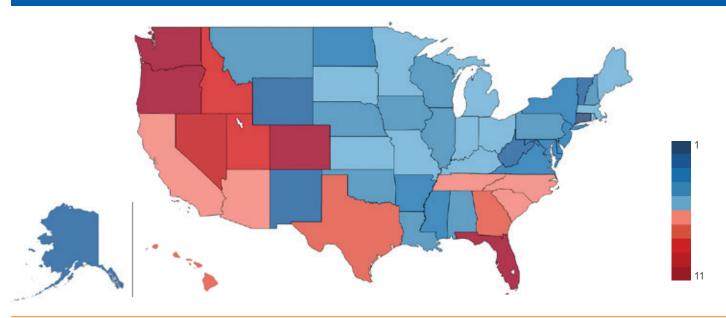
#### **ANNUAL PERCENTAGE CHANGE IN HOME PRICES**



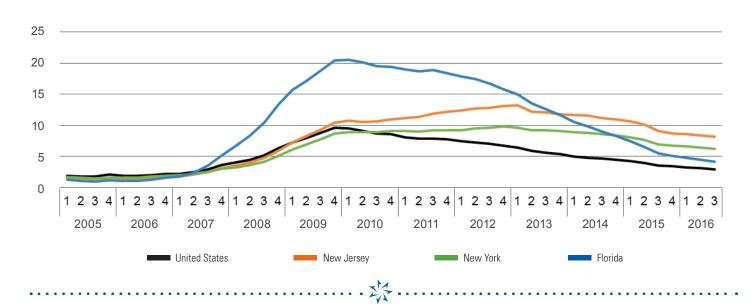
- Home prices rose 5.21% year-over-year, according to the latest (September 2016) S&P/Case-Shiller National Home Price Index, and 6.13% according to the FHFA Purchase-Only Index for September. The FHFA index is based on GSE loans, while the Case-Shiller index uses a broader selection of loans and different estimation methods.
   Sources: Case-Shiller/FHFA/Moody's Analytics/Arch MI
- The year-over-year change in the FHFA All-Transactions Regional HPI as of 2016 Q3 was positive for all states, but varied substantially across the country. The fastest growth continued to be in the West and Florida. In Oregon, Washington, Colorado and Florida, home prices increased by more than 10% year-over-year. Please see the State-Level tables on pages 4-5 for specific values. Sources: FHFA/Case-Shiller/Moody's Analytics/Arch MI

NSA stands for Not Seasonally Adjusted, SA stands for Seasonally Adjusted, Ths. \$ stands for Thousands of Dollars.

#### 12-MONTH CHANGE IN HOME PRICES BY STATE

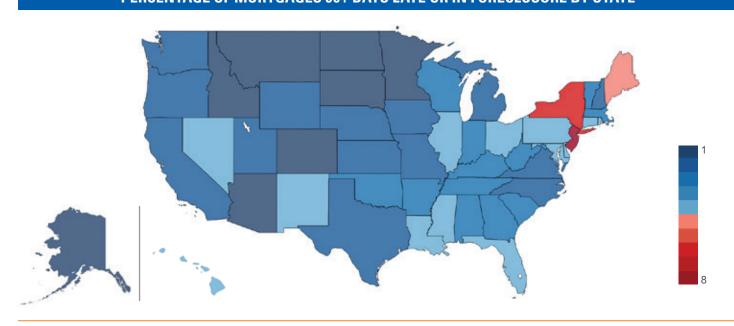


#### PERCENTAGE OF MORTGAGES 90+ DAYS LATE OR IN FORECLOSURE

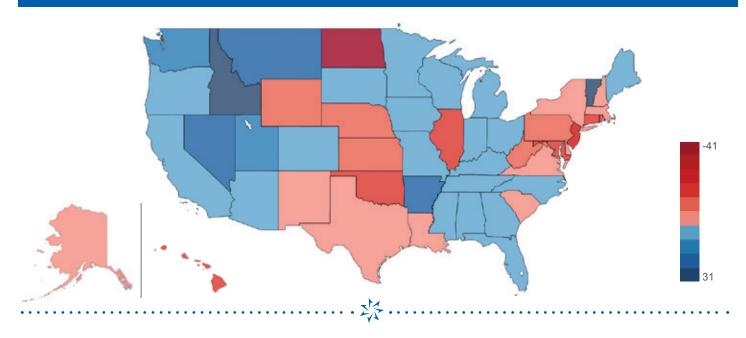


- Delinquency rates continue to trend downward. New York and New Jersey lagged the general recovery, and while improving, now have the highest foreclosure rates in the country. Florida has seen the largest decrease in the percentage of mortgages that are seriously delinquent. At the peak of the housing crisis (March 2010), more than 1 in 5 mortgages in Florida were seriously delinquent, compared to less than 1 in 20 at the end of the third quarter 2016. Florida, New York, New Jersey and Maine are all judicial foreclosure states, which increases the time it takes to complete a foreclosure.
  - Sources: Mortgage Bankers Association/Moody's Analytics/Arch MI
- Mortgages 90+ days late or in foreclosure fell from a national average of 3.6% a year ago to 3.0% at the end of 2016 Q3. This is the lowest level observed since 2007 Q3. This measure peaked in 2009 Q4 at 9.7%.
   Sources: Mortgage Bankers Association/Moody's Analytics/Arch MI

#### PERCENTAGE OF MORTGAGES 90+ DAYS LATE OR IN FORECLOSURE BY STATE

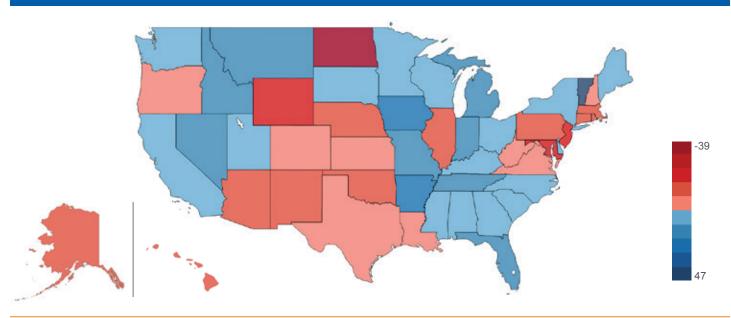


#### YEAR-OVER-YEAR PERCENTAGE CHANGE IN HOUSING STARTS BY STATE

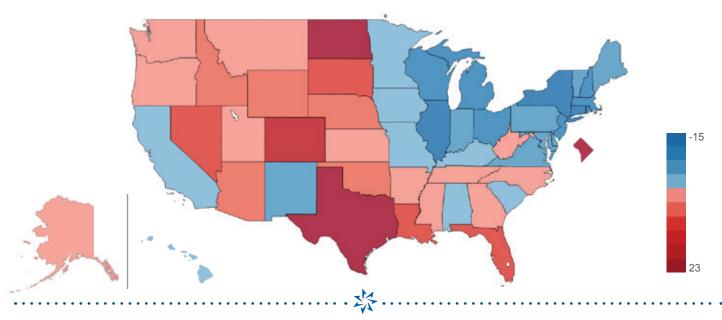


- In the third quarter, Single-Family Housing Starts increased by **1.9%** year-over-year nationally. States in the Pacific and Mountain census divisions experienced the largest increases in Housing Starts year-over-year. North Dakota Housing Starts decreased by **41%** year-over-year.
  - Sources: U.S. Census Bureau/Moody's Analytics/Arch MI
- Single-Family Building Permits (a precursor of starts) increased by **5.2%** year-over-year nationally. North Dakota Building Permits decreased by **39%** year-over-year.
  - Sources: U.S. Census Bureau/Moody's Analytics/Arch MI

#### YEAR-OVER-YEAR PERCENTAGE CHANGE IN BUILDING PERMITS BY STATE

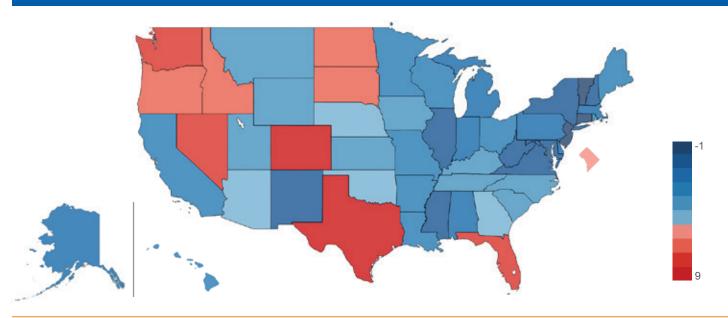


#### **HOUSE PRICE OVER-/UNDERVALUED BY STATE**

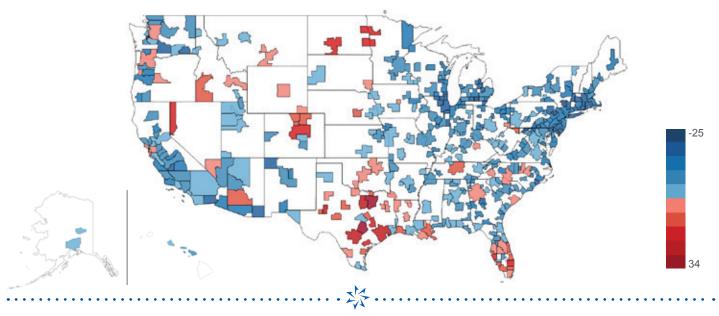


- Most of the country has seen solid house price appreciation over the last several years and homes are reasonably priced relative to per-capita income. It can take 10 years or more for house prices to revert to trend after a boom-and-bust cycle. States in the Northeast remain the most undervalued, led by Rhode Island (15.0%), Connecticut (13.8%) and Illinois (13.5%). The most overvalued states are Texas (22.5%) and North Dakota (22.5%).
   Sources: FHFA/Moody's Analytics/Arch MI
- Year-over-year changes in how over-/undervalued a state is show Colorado (8.6%), Texas (8.5%) and Nevada (7.7%) as more overvalued. The higher than expected home prices in Colorado are not overly worrisome, since they likely reflect improvements in the fundamental economic drivers and desirability of these areas, which are reflected in their low Risk Index values. Connecticut home prices are estimated to be 13.8% undervalued; prices became 0.5% more undervalued year-over-year.
   Sources: FHFA/Moody's Analytics/Arch MI

#### YEAR-OVER-YEAR CHANGE HOUSE PRICE OVER-/UNDERVALUED BY STATE

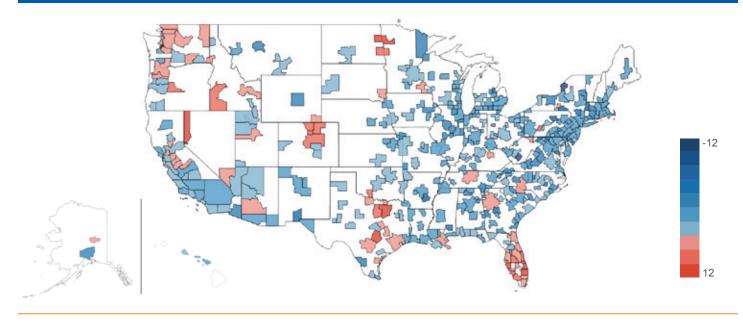


#### **HOUSE PRICE OVER-/UNDERVALUED BY MSA**

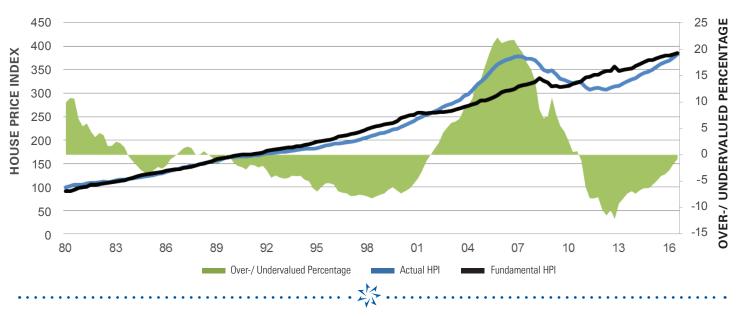


- Looking at house prices relative to fundamental values at the MSA (Metropolitan Statistical Area) level reveals some additional insights not evident in the state-level views. While Texas house prices as a region are estimated to be overvalued by 22.5%, the Austin-Round Rock, TX MSA is 34.2% overvalued (the highest in the country) followed by Dallas-Plano-Irving, TX (29.1%) and Houston-The Woodlands-Sugar Land, TX (28.1%) MSAs. Home prices increased the most year-over-year in the Carson City, NV (14.4%), Sebastian-Vero Beach, FL (13.4%), Port St. Lucie, FL (13.0%) and Seattle-Bellevue-Everett, WA (12.2%) MSAs. All four MSAs are estimated to be overvalued by at least 6%. Visit archmi.com/hammr for specific values. Sources: FHFA/Moody's Analytics/Arch MI
- Many MSAs estimated to be overvalued at 2016 Q3 were actually undervalued a year ago. The 1-year change is especially noticeable in Nevada and Florida. One year ago, the Carson City, NV MSA was 0.2% undervalued and, as of 2016 Q3, 12.2% overvalued. Las Vegas-Henderson-Paradise, NV was 0.3% undervalued a year ago and 6.7% overvalued as of 2016 Q3. Sebastian-Vero Beach, FL was 3.3% undervalued a year ago and 8.2% overvalued at 2016 Q3. Lakeland-Winter Haven, FL was 1.7% undervalued a year ago and 6.1% overvalued at 2016 Q3. Sources: FHFA/Moody's Analytics/Arch MI

#### YEAR-OVER-YEAR CHANGE HOUSE PRICE OVER-/UNDERVALUED BY MSA



#### **HOUSE PRICE INDEX OVER-/UNDERVALUED - UNITED STATES**

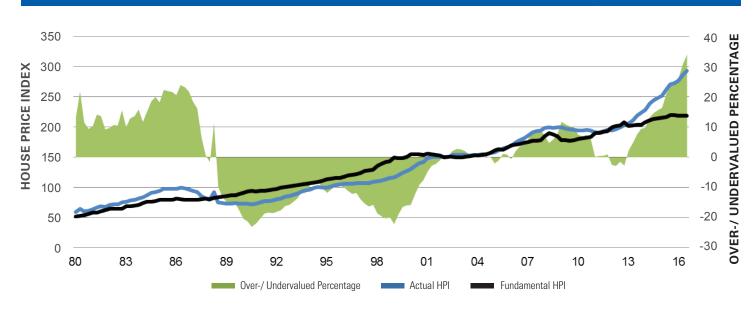


During the last housing bubble, the national HPI peaked in 2007 Q1 at an index value of 378.2. HPI reached the bottom (trough) approximately 5 years after the peak. Many argue the \$8,000 first-time homebuyer tax credit implemented and extended during the Bush and Obama administrations in 2008-2009, delayed house prices from reaching the trough by 1-2 years. In 2016 Q3, national HPI finally surpassed the peak value of 2007 Q1 for the first time at an index value of 382.9. However, prices are still estimated to be 0.8% undervalued at 2016 Q3. Our internal HPI forecasts estimate national HPI will become slightly overvalued at the end of 2017 Q1.

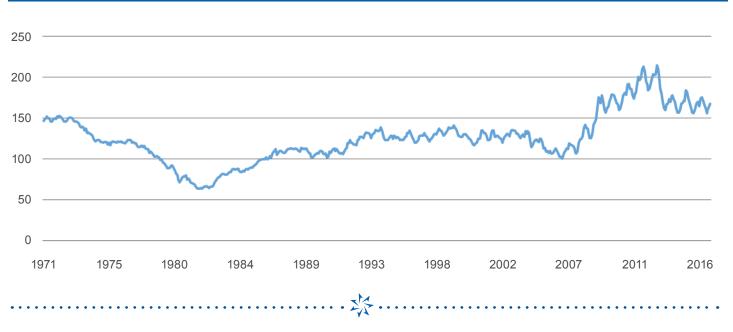
The blue lines in the charts are the actual HPIs (House Price Index); the black lines are the "fitted" HPIs from the regressions (left axis). Sources: FHFA/Moody's Analytics/Arch MI

The Austin-Round Rock, TX MSA continues to experience rapid house price appreciation. Prices have increased 8.2% year-over-year and 2.3% in just the last quarter. Prices are estimated to be more than 34% overvalued in this MSA now. Sources: FHFA/Moody's Analytics/Arch MI

#### HOUSE PRICE INDEX OVER-/UNDERVALUED - AUSTIN-ROUND ROCK, TX



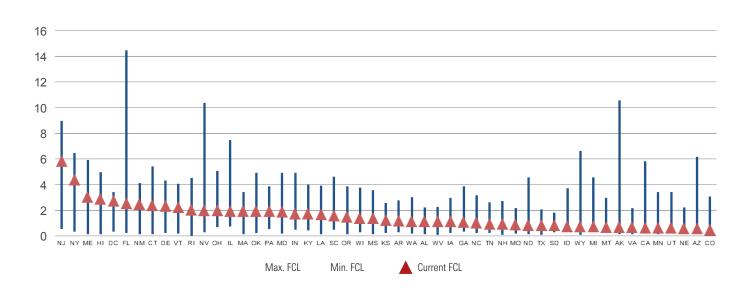
#### **HOUSING AFFORDABILITY INDEX**



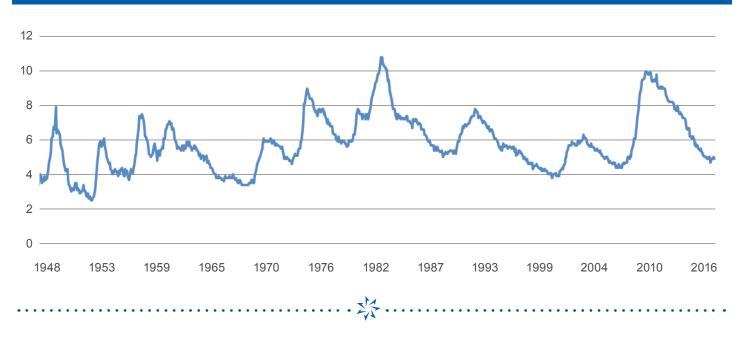
- Housing Affordability remains favorable to homeownership. The National Association of Realtors® Affordability Index increased slightly to
   168 in September from 166 a year earlier, as interest rates have decreased. The average over the entire data series is 126. (A value of 100 indicates a family with the median income has exactly enough income to qualify for a typical mortgage, with a principal and interest payment equal to 25% of income, on a median-priced single-family home. The higher the index, the easier it is to afford a home.)

   Sources: National Association of Realtors/Moody's Analytics/Arch MI
- The percentage of loans in the foreclosure process is highest in New Jersey and New York. These states require judicial proceedings, which have longer foreclosure timelines than non-judicial states. The range of values is from the beginning of 2000 until now. Florida has experienced the largest decrease in the percentage of loans in the foreclosure process, the peak being 14.5% as compared to 2.5% currently. Sources: Mortgage Bankers Association/Moody's Analytics/Arch MI

#### MAX., MIN. AND CURRENT FORECLOSURE RATE BY STATE

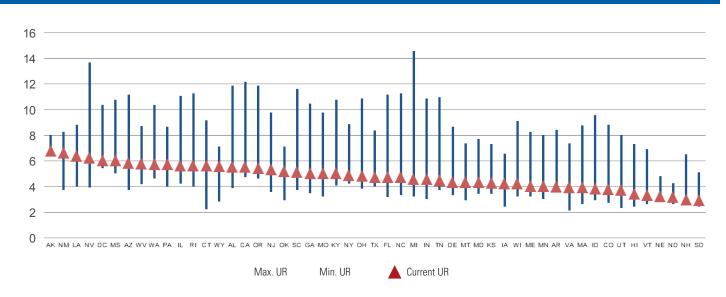


#### **UNEMPLOYMENT RATE (SEASONALLY ADJUSTED)**

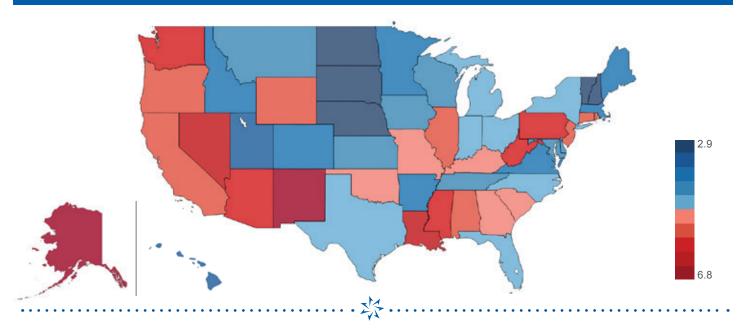


- The National (seasonally adjusted) unemployment rate decreased slightly in October at 4.9%. It was 5.0% a year earlier.
   Sources: U.S. Bureau of Labor Statistics/Moody's Analytics/Arch MI
- The chart below shows the current levels of unemployment for each state, along with the range since the beginning of 2000 until now. Alaska currently has the highest unemployment (6.8%), while South Dakota (2.9%) has the lowest unemployment rate. Arkansas (3.9%) is closest to the lowest rate it has seen since the year 2000. Sources: U.S. Bureau of Labor Statistics/Moody's Analytics/Arch MI

#### MAX., MIN. AND CURRENT UNEMPLOYMENT RATE BY STATE (SEASONALLY ADJUSTED)



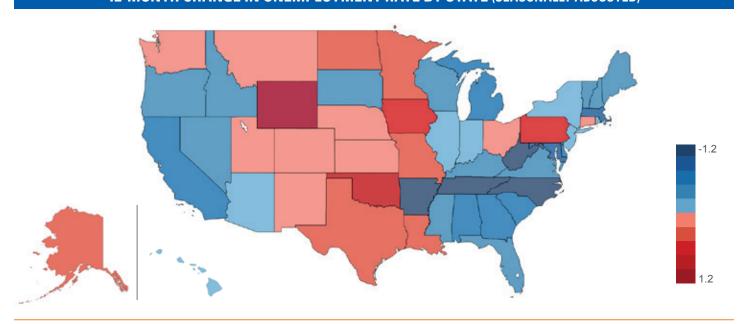
#### **UNEMPLOYMENT RATE BY STATE (SEASONALLY ADJUSTED)**



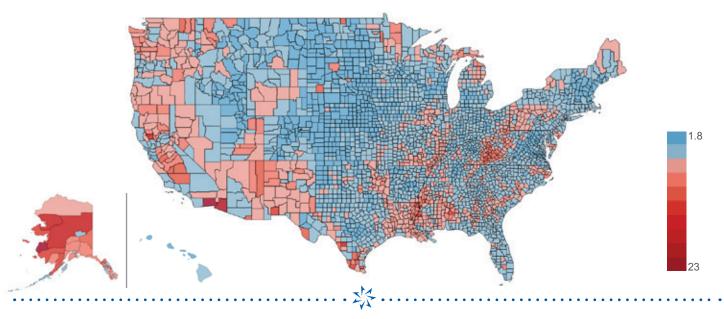
- The Midwest had the lowest unemployment rates in the nation, often at or below 4%, while Texas remains very healthy at 4.7%.
   At 6.8%, Alaska has the highest unemployment rate, followed by New Mexico at 6.6% and Louisiana at 6.3%.
   Sources: U.S. Bureau of Labor Statistics/Moody's Analytics Adjusted/Arch MI
- In October, the unemployment rate increased by **1.2%** in Wyoming as compared to 2015 Q3. Wyoming is in a recession due to the decrease in energy prices. The economy is not very well-diversified, with employment heavily concentrated in the energy sector. Unemployment remains high in parts of the West and Southeast. Fortunately, those areas also saw some of the largest year-over-year declines in unemployment rates (see below).

Sources: U.S. Bureau of Labor Statistics/Moody's Analytics Adjusted/Arch MI

#### 12-MONTH CHANGE IN UNEMPLOYMENT RATE BY STATE (SEASONALLY ADJUSTED)



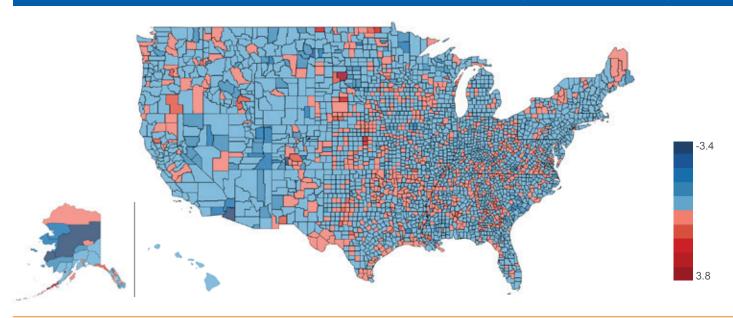
#### **UNEMPLOYMENT RATE BY COUNTY (SEASONALLY ADJUSTED)**

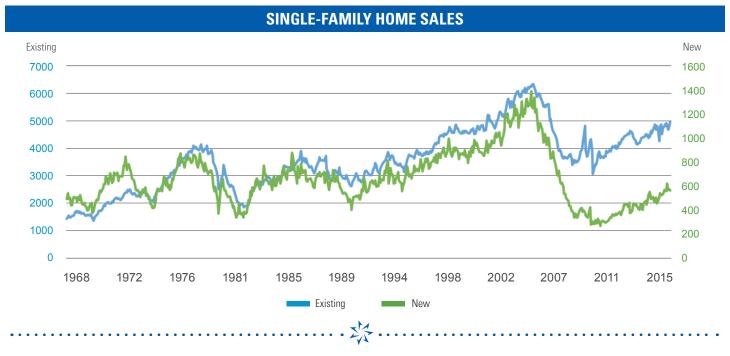


- While the national unemployment rate remains low, the picture is far more varied at the county level. Many rural areas in the West remain weak, even though employment gains have been strong in the larger cities. Rural areas in Georgia and South Carolina also remain weak, but should benefit from spillover effects as Atlanta experiences solid job growth faster than the national average. The Appalachian region has been hurt by a 25% drop in the price of coal over the past year due to competitive pressure from cheap natural gas. The drop in energy prices also hurt some smaller regions in oil-producing areas in Montana, Louisiana, New Mexico, North Dakota, Oklahoma, Texas and Wyoming. Sources: U.S. Bureau of Labor Statistics/Moody's Analytics/Arch MI
- The map below shows year-over-year changes in unemployment rates. Improvements have been broad-based, particularly in California, Florida and Ohio. 43% of all counties in North Dakota experienced increases in unemployment rates compared to a year ago. The average increase was 0.4%, as compared to 66% and 0.3% for Texas.

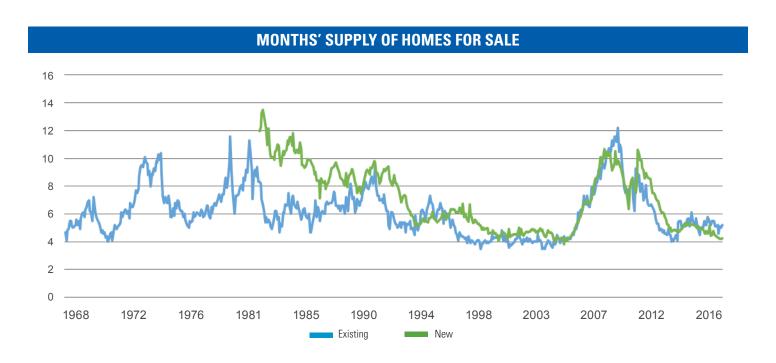
#### Sources: U.S. Bureau of Labor Statistics/Moody's Analytics/Arch MI

#### YEAR-OVER-YEAR CHANGE IN UNEMPLOYMENT RATE BY COUNTY (SEASONALLY ADJUSTED)





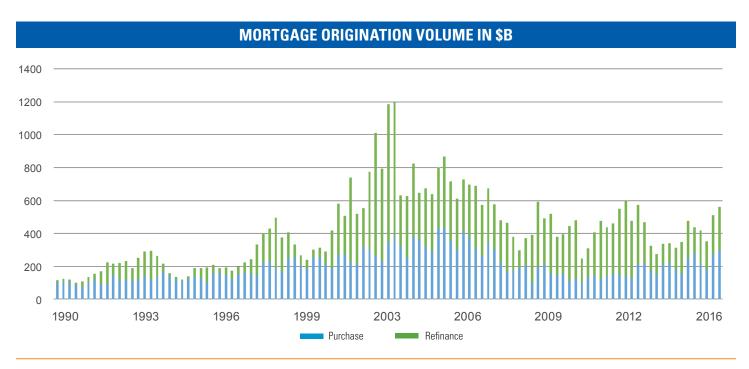
- Existing sales in October came in at 4.99 million units (after annualizing the monthly number), an increase of 6.6% compared to the same time last year. New home sales were 563,000 units (annualized rate), up 17.8% from a year ago.
   Sources: National Association of Realtors/Census Bureau/Moody's Analytics/Arch MI
- The months' supply of existing homes for sale (total current listings ÷ last month's sales) decreased in October to **5.2** months compared to **5.6** months at the same time a year ago. Please note the existing homes data series in the early 1980s is controversial among some housing economists, who suspect it is overstated due to poor data quality. The months' supply of new homes for sale, shown in green, decreased to **4.2** months in October, compared to **4.7** months a year earlier. Sources: National Association of Realtors/Moody's Analytics/Arch MI



#### **MULTI- AND SINGLE-FAMILY HOUSING STARTS**



- Single-Family Housing Starts increased significantly nationally to 869,000 units (annual rate) in October, from 714,000 units at the same time a year ago. Year-over-year, they were up 21.7%. This is the highest level of Single-Family Starts observed since October of 2007. A total of 454,000 multi-family units (annual rate) were started in October, an increase of 26.5% compared to a year earlier. Sources: U.S. Census Bureau/Moody's Analytics/Arch MI
- Mortgage originations for purchase loans were \$298B in 2016 Q3, 6.5% higher than a year earlier. Mortgage originations for refinance mortgages were \$263B, up 66.0% from a year earlier. The Freddie Mac 30-Year Fixed Mortgage Rate was 3.45% at the end of September, compared to 3.95% a year earlier. Refinance incentive remains high for borrowers who haven't already refinanced. Sources: Mortgage Bankers Association/Moody's Analytics/Arch MI



# Arch MI Risk Index for the 50 Largest MSAs

		Arch	MI Risk I	ndex	12M H	ome Price (	Affordability Index			
50 Largest Metropolitan Statistical Areas	Risk Ranking	2016 Q3	1-Yr. Change	Long- Run Avg.	HPA 1-Yr. 2016 Q3	HPA 1-Yr. 2015 Q3	HPA Volatility	2016 Q3	1-Yr. Change	Long- Run Avg.
Houston-The Woodlands-Sugar Land, TX	Moderate	30	-10	15	3.6	7.8	Normal	206	19	146
San Antonio-New Braunfels, TX	Low	9	-20	18	6.9	8.1	Normal	204	16	138
West Palm Beach-Boca Raton-Delray Beach, FL	Low	8	4	28	11.2	12.0	Low	171	7	124
Fort Worth-Arlington, TX	Low	8	-21	13	8.8	9.2	Low	229	13	153
Austin-Round Rock, TX	Low	7	-19	18	8.2	10.9	Normal	161	10	126
Denver-Aurora-Lakewood, CO	Low	7	2	16	10.3	13.7	Normal	191	9	144
Phoenix-Mesa-Scottsdale, AZ	Low	5	3	24	6.6	8.0	Low	193	13	138
Fort Lauderdale-Pompano Beach-Deerfield Beach, FL	Low	5	3	26	8.5	9.1	Low	161	10	120
Dallas-Plano-Irving, TX	Low	5	-27	13	9.4	10.9	Low	201	8	144
Nashville-DavidsonMurfreesboroFranklin, TN	Low	3	1	18	9.0	8.6	Low	215	13	145
San Francisco-Redwood City-South San Francisco, CA	Low	3	1	25	7.1	13.6	Normal	156	11	122
Philadelphia, PA	Low	3	1	26	5.7	3.4	Low	197	18	122
Anaheim-Santa Ana-Irvine, CA	Minimal	2	-4	26	5.3	5.8	Low	164	15	118
Atlanta-Sandy Springs-Roswell, GA	Minimal	2	0	23	7.5	7.9	Low	236	20	150
Baltimore-Columbia-Towson, MD	Minimal	2	0	23	3.3	2.2	Low	208	23	126
Boston, MA	Minimal	2	0	26	5.6	5.2	Low	224	22	137
Cambridge-Newton-Framingham, MA	Minimal	2	0	21	4.8	5.3	Low	225	23	138
Charlotte-Concord-Gastonia, NC-SC	Minimal	2	0	17	8.1	6.0	Low	239	17	151
Chicago-Naperville-Arlington Heights, IL	Minimal	2	0	29	3.8	4.1	Low	269	30	147
Cincinnati, OH-KY-IN	Minimal	2	0	18	4.1	4.3	Low	294	31	162
Cleveland-Elyria, OH	Minimal	2	0	27	3.5	3.8	Normal	330	37	173
Columbus, OH	Minimal	2	0	16	6.3	5.7	Low	270	24	159
Detroit-Dearborn-Livonia, MI	Minimal	2	0	50	5.7	6.2	Low	334	31	186
Indianapolis-Carmel-Anderson, IN	Minimal	2	0	15	4.9	4.2	Low	267	28	154
Jacksonville, FL	Minimal	2	0	25	9.2	7.2	Normal	202	11	132
Kansas City, MO-KS	Minimal	2	0	21	6.8	4.6	Normal	260	21	155
Las Vegas-Henderson-Paradise, NV	Minimal	2	0	29	8.1	7.8	Low	213	13	145
Los Angeles-Long Beach-Glendale, CA	Minimal	2	0	28	6.2	7.0	Low	177	15	124
Miami-Miami Beach-Kendall, FL	Minimal	2	0	25	9.0	10.3	Low	172	10	124
Milwaukee-Waukesha-West Allis, WI	Minimal	2	0	22	4.0	3.7	Low	257	27	147
Minneapolis-St. Paul-Bloomington, MN-WI	Minimal	2	0	25	4.5	4.9	Normal	238	23	143
Montgomery County-Bucks County-Chester County, PA	Minimal	2	0	22	3.3	2.7	Low	230	25	133
Nassau County-Suffolk County, NY	Minimal	2	0	32	3.6	4.1	Low	201	22	123
New York-Jersey City-White Plains, NY-NJ	Minimal	2	-1	27	3.1	4.3	Low	213	24	125
Newark, NJ-PA	Minimal	2	-1	27	2.6	2.9	Low	219	25	128
Oakland-Hayward-Berkeley, CA	Minimal	2	0	27	7.8	11.4	Normal	176	15	128
Orlando-Kissimmee-Sanford, FL	Minimal	2	0	24	9.5	9.9	Low	190	11	130
Pittsburgh, PA	Minimal	2	0	9	4.1	4.3	Low	248	25	150
Portland-Vancouver-Hillsboro, OR-WA	Minimal	2	0	21	11.5	11.7	Normal	179	9	131
Providence-Warwick, RI-MA	Minimal	2	0	29	4.6	4.3	Low	231	22	133
Riverside-San Bernardino-Ontario, CA	Minimal	2	0	27	5.2	6.4	Low	184	17	127
SacramentoRosevilleArden-Arcade, CA	Minimal	2	0	29	7.1	7.2	Low	207	18	135
San Diego-Carlsbad, CA	Minimal	2	-1	27	6.1	6.4	Low	183	15	126
San Jose-Sunnyvale-Santa Clara, CA	Minimal	2	0	32	7.1	11.5	Normal	175	16	122
Seattle-Bellevue-Everett, WA	Minimal	2	0	21	12.2	9.8	Normal	179	9	128
St. Louis, MO-IL	Minimal	2	0	21	5.2	3.6	Low	257	25	149
Tampa-St. Petersburg-Clearwater, FL	Minimal	2	0	24	9.3	10.0	Low	185	11	129
Virginia Beach-Norfolk-Newport News, VA-NC	Minimal	2	0	25	3.5	2.2	Normal	217	23	129
Warren-Troy-Farmington Hills, MI	Minimal	2	0	32	5.0	6.0	Low	283	30	166
Washington-Arlington-Alexandria, DC-VA-MD-WV	Minimal	2	0	21	3.6	4.6	Low	173	19	116
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# Arch MI Risk Index for the 50 Largest MSAs

Control Largest Metropolitan Statistical Areas Houston-The Woodlands-Sugar Land, TX San Antonio-New Braunfels, TX West Palm Beach-Boca Raton-Delray Beach, FL Fort Worth-Arlington, TX Austin-Round Rock, TX Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA Philadelphia, PA	2016 0.3 5.4 3.8 4.7 4.1	1-Yr. Change 0.8 0.0	Long- Run Avg.	Per Capita 2016 Q3	1-Yr. % Change	Per 1000 People	1-Yr. %		
Houston-The Woodlands-Sugar Land, TX San Antonio-New Braunfels, TX West Palm Beach-Boca Raton-Delray Beach, FL Fort Worth-Arlington, TX Austin-Round Rock, TX Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	3.8 4.7	0.0	5.6		Ullalige	2016 Q3	Change	2016 Q3 (Ths.)	1-Yr. % Change
San Antonio-New Braunfels, TX  West Palm Beach-Boca Raton-Delray Beach, FL Fort Worth-Arlington, TX  Austin-Round Rock, TX  Denver-Aurora-Lakewood, CO  Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL  Dallas-Plano-Irving, TX  Nashville-DavidsonMurfreesboroFranklin, TN  San Francisco-Redwood City-South San Francisco, CA	4.7	0.0		\$ 65,673	-1.2	5.3	-9.1	6,780	1.4
West Palm Beach-Boca Raton-Delray Beach, FL Fort Worth-Arlington, TX Austin-Round Rock, TX Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	4.7		4.9	\$ 47,477	1.3	2.7	-5.3	2,428	1.4
Fort Worth-Arlington, TX Austin-Round Rock, TX Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA		-0.2	6.4	\$ 48,231	5.1	1.6	-34.1	1,458	2.0
Austin-Round Rock, TX Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Vashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA		-0.1	5.1	\$ 51,761	0.3	3.1	5.9	2,440	1.4
Denver-Aurora-Lakewood, CO Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Vashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	3.2	-0.1	4.4	\$ 59,748	2.8	6.5	9.1	2,038	1.4
Phoenix-Mesa-Scottsdale, AZ Fort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Vashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	3.5	0.0	4.9	\$ 65,036	3.2	3.6	12.2	2,845	0.8
ort Lauderdale-Pompano Beach-Deerfield Beach, FL Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	5.0	-0.1	5.1	\$ 46,966	5.5	3.8	4.1	4,715	2.5
Dallas-Plano-Irving, TX Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	4.4	-0.4	5.7	\$ 48,687	4.5	0.6	-33.1	1,943	2.0
Nashville-DavidsonMurfreesboroFranklin, TN San Francisco-Redwood City-South San Francisco, CA	3.7	-0.2	5.2	\$ 68,049	2.0	5.0	-0.1	4,795	1.4
San Francisco-Redwood City-South San Francisco, CA	3.4	-1.1	4.9	\$ 58,636	4.4	6.8	0.7	1,849	0.7
	3.3	-0.1	5.0	\$ 119,182	4.3	0.4	-3.5	1,651	1.0
Illiadelonia. PA	6.5	0.5	6.9	\$ 52,948	3.0	0.6	-7.0	2,135	0.1
Anaheim-Santa Ana-Irvine, CA	4.1	-0.2	5.1	\$ 83,961	4.4	1.4	24.8	3,211	1.1
Atlanta-Sandy Springs-Roswell, GA	4.7	-0.6	5.6	\$ 56,702	4.3	4.0	3.7	5,796	1.2
Baltimore-Columbia-Towson, MD	4.4	-0.9	5.3	\$ 65,902	3.0	1.5	-11.1	2,831	1.0
Boston, MA	3.6	-0.9	5.0	\$ 93,038	3.2	0.9	-3.4	1,992	0.2
Cambridge-Newton-Framingham, MA	3.4	-0.9	4.7	\$ 77,763	3.8	1.0	-1.6	2,370	0.2
Charlotte-Concord-Gastonia, NC-SC	4.5	-0.8	6.0	\$ 56,458	4.2	5.7	5.2	2,464	1.2
Chicago-Naperville-Arlington Heights, IL	5.4	-0.2	6.7	\$ 67,380	2.5	0.6	0.0	7,362	0.3
Cincinnati, OH-KY-IN	4.2	-0.2	5.6	\$ 56,976	2.6	1.7	4.8	2,161	0.1
Cleveland-Elyria, OH	5.1	0.5	5.2	\$ 60,202	2.5	1.3	-2.0	2,062	0.1
Columbus, OH	3.9	0.0	5.1	\$ 60,995	3.8	1.9	15.0	2,022	-0.1
Detroit-Dearborn-Livonia, MI	6.0	-0.9	8.4	\$ 48,186	3.9	0.7	40.1	1,765	0.3
ndianapolis-Carmel-Anderson, IN	4.2	-0.2	5.0	\$ 62,403	4.4	2.9	12.3	1,703	0.3
Jacksonville, FL	4.5	-0.5	5.4	\$ 48,450	4.7	5.8	9.1	1,485	2.0
Kansas City, MO-KS	4.6	0.3	5.4	\$ 55,018	1.7	2.4	8.7	2,097	0.3
as Vegas-Henderson-Paradise, NV	6.3	-0.4	6.7	\$ 48,213	4.3	4.0	16.2	2,181	2.5
os Angeles-Long Beach-Glendale, CA	4.9	-1.5	7.6	\$ 69,887	4.4	0.4	-3.3	10,302	1.1
Miami-Miami Beach-Kendall, FL	5.2	-0.8	6.1	\$ 48,537	3.5	1.1	-5.2	2,760	2.1
Milwaukee-Waukesha-West Allis, WI	4.5	-0.4	5.4	\$ 60,209	2.9	1.1	15.8	1,585	0.5
Minneapolis-St. Paul-Bloomington, MN-WI	3.6	0.3	4.2	\$ 68,060	3.4	2.0	1.8	3,561	0.8
Montgomery County-Bucks County-Chester County, PA	4.4	0.5	4.5	\$ 71,523	3.3	1.5	2.7	1,966	0.0
Nassau County-Suffolk County, NY	3.8	-0.6	4.8	\$ 65,698	2.3	0.6	-12.8	2,865	0.0
New York-Jersey City-White Plains, NY-NJ	5.2	0.1	6.6	\$ 80,820	3.4	0.4	-17.0	14,443	0.0
Newark, NJ-PA	5.2	0.1	5.8	\$ 73,174	3.6	0.4	-14.7	2,526	0.5
Dakland-Hayward-Berkeley, CA	4.5	-0.2	6.0	\$ 64,852	4.8	1.4	-0.4	2,800	1.0
Orlando-Kissimmee-Sanford, FL	4.3	-0.5	5.5	\$ 54,630	5.5	6.1	23.1	2,446	1.9
Pittsburgh, PA	5.9	1.0	5.6	\$ 62,240	1.9	1.3	-19.8	2,357	0.2
Portland-Vancouver-Hillsboro, OR-WA	5.1	-0.3	6.3	\$ 65,845	5.3	3.1	7.7	2,425	1.1
Providence-Warwick, RI-MA	5.3	-0.5	6.7	\$ 53,316	3.6	0.9	-6.9	1,619	0.3
Riverside-San Bernardino-Ontario, CA	6.2	-0.0	7.7	\$ 40,115	4.8	1.9	10.8	4,547	1.0
SacramentoRosevilleArden-Arcade, CA	5.5	-0.2	6.7	\$ 59,178	4.0	2.7	16.0	2,303	1.0
San Diego-Carlsbad, CA	4.9	-0.3	5.8	\$ 69,489	4.9	0.8	-23.0	3,342	1.0
San Jose-Sunnyvale-Santa Clara, CA	3.9	-0.2	5.9	\$ 99,636	4.4	1.1	22.4	2,002	1.0
Seattle-Bellevue-Everett, WA	4.1	-0.1	5.2	\$ 89,604	4.4	2.4	16.4	2,936	1.3
St. Louis, MO-IL	5.0	0.1	5.8	\$ 54,778	2.1	1.8	-2.9	2,825	0.4
Fampa-St. Petersburg-Clearwater, FL	4.6		5.6	\$ 48,714	4.5	3.9	23.2	3,049	2.0
/irginia Beach-Norfolk-Newport News, VA-NC	4.5	-0.4 -0.3	4.7	\$ 57,243	3.4	2.3	-6.7	1,748	1.1
Warren-Troy-Farmington Hills, MI	4.5	-0.3	6.5	\$ 57,243	5.1	2.3 1.7	-6.4	2,550	0.2
Washington-Arlington-Alexandria, DC-VA-MD-WV	3.8	-0.9	4.3	\$ 78,880	4.0	2.2	-0.4	4,856	0.2
Population Weighted Average	3.0 <b>4.9</b>	-0.0	5.9	\$ \$59,379	3.3	2.5	-2.5	4,000	0.7

Sources: Arch MI,FHFA/NAR/BLS/Census Bureau/Moody's Analytics. See Notes on page 7.



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