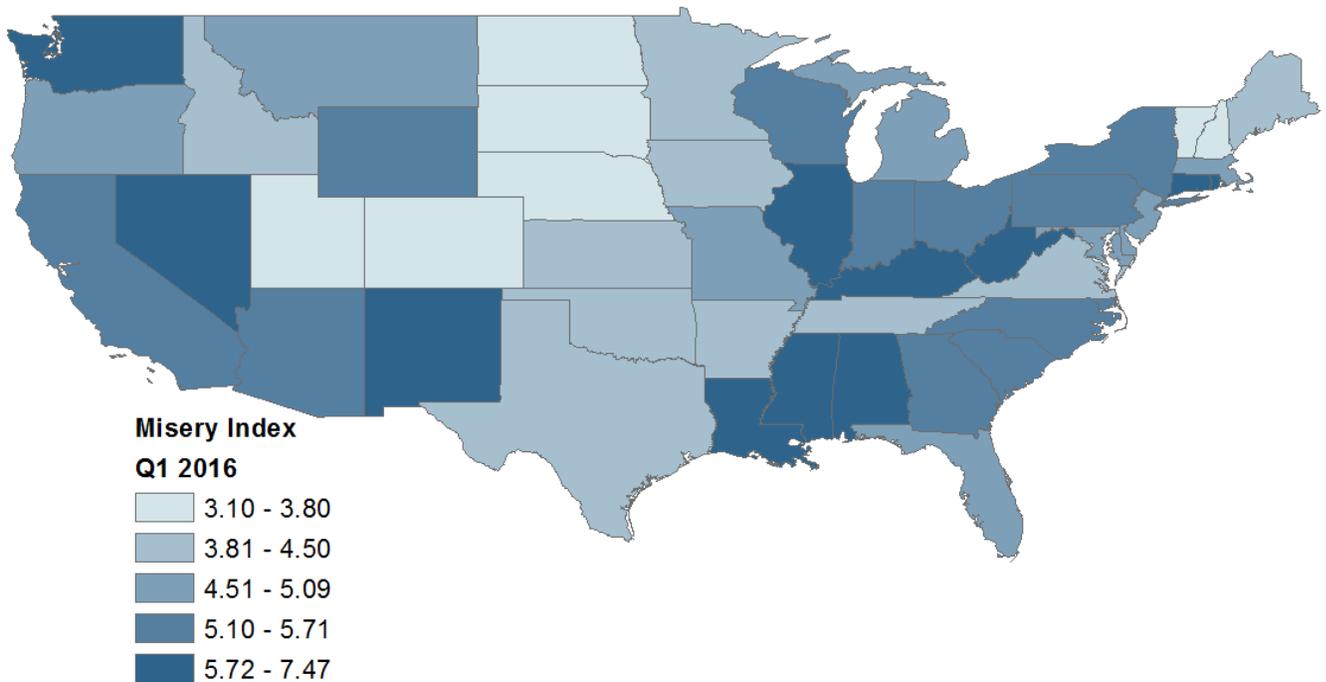


# Misery Index: 2016 Q1

The Misery Index is an indicator measuring the impact of changing economic conditions on people. This index, as calculated by CEDBR, is a combination of the quarterly percent change in the Housing Price Index (HPI), the quarterly average change in the Consumer Price Index (CPI), and the quarterly average unemployment rate (UR). The combination of changes in these factors indicates the changing level of economic misery experienced by people in different geographic areas.

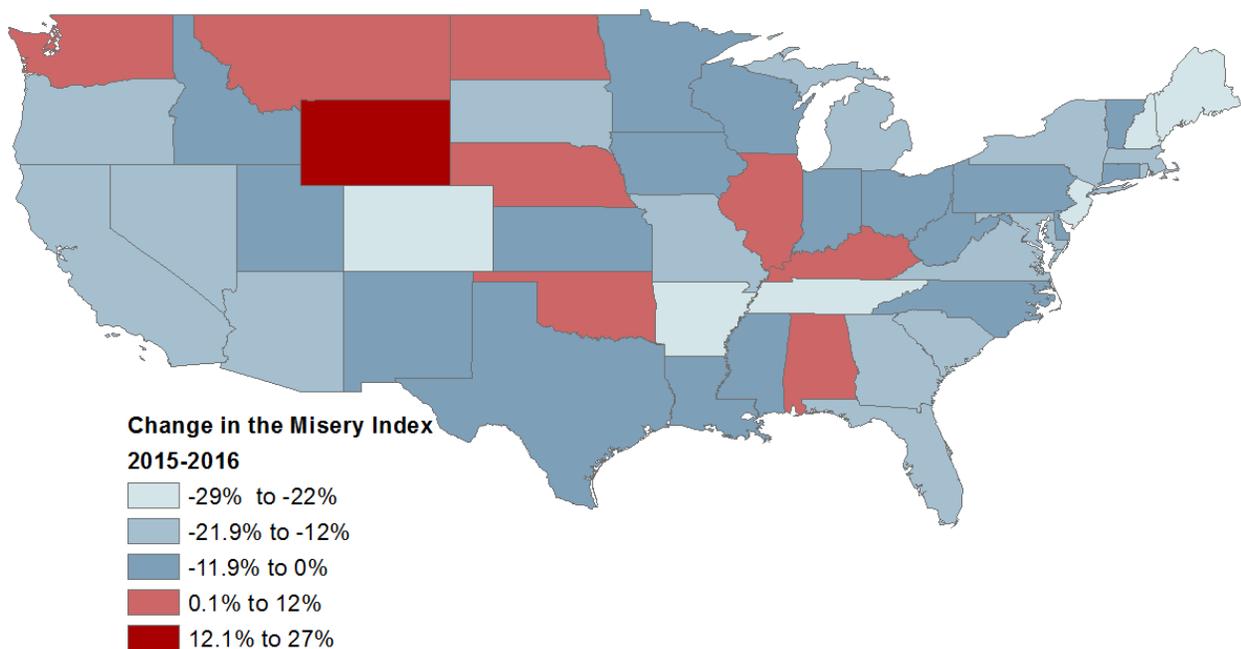
For the U.S. as a whole we are slightly more miserable than we were just before the 2008 recession. Although housing prices are increasing and inflation is low, the unemployment rate remains slightly above the 2007 average of 4.62 percent, at 5.2 percent. However, most states are currently at levels of misery lower than their prerecession levels.



In Kansas we are currently at a level of misery lower than we were before the 2008 recession, as are all of the states in the heartland. The states in the middle of the country have lower levels of misery which is attributed to the lower levels of unemployment in these areas. The higher levels of misery in the west and the south are due to the higher levels of unemployment in those areas, which are not completely offset by the generally higher increase in home value in those areas.

The Misery Index can be used as an indication of the current economic experience of a group of people. However, sometimes how we perceive our current economic circumstances is relative to our previous economic circumstances. In this way, looking at the percentage change in the Misery Index over time gives an indication of how people may perceive their economic circumstances.

The level of misery in Kansas decreased 9.1 percent between the first quarter of 2015 and the first quarter of 2016. This was typical of many states. The surrounding states had a variety of changes in their level of misery. Nebraska and Oklahoma experienced increases in misery, of 2.4 percent and 5.3 percent, respectively. Colorado and Missouri had decreases in misery, of 28.9 percent and 18.8 percent, respectively. Colorado had the largest percentage decrease in misery in the country over the past year.



Most states experienced an increase in misery between the fourth quarter of 2015 and the first quarter of 2016. This is not unusual and can be attributed to seasonal fluctuations in unemployment. However, not all states had a quarterly increase in misery. Eight states, Arizona, California, Florida, Hawaii, Mississippi, Nevada, Oregon and Tennessee had quarterly decreases in misery due to decreases in unemployment.

## Misery Index

	Index Value		% Change in Index		Change in Index Components		
	Q1 2016	Q4 2015	Quarterly	Annual	HPI	CPI	UR
Alabama	6.27	5.80	▲ 8.2%	▲ 1.9%	▼ -0.002	▲ 0.007	▲ 0.467
Alaska	7.45	6.48	▲ 15.1%	▲ 3.0%	▼ -0.004	▲ 0.006	▲ 0.967
Arizona	5.22	5.70	▼ -8.5%	▼ -16.8%	▼ -0.009	▲ 0.006	▼ -0.500
Arkansas	4.48	4.39	▲ 2.0%	▼ -26.5%	▼ -0.016	▲ 0.007	▲ 0.067
California	5.71	5.77	▼ -1.0%	▼ -17.6%	▼ -0.004	▲ 0.006	▼ -0.067
Colorado	3.34	3.27	▲ 2.0%	▼ -28.9%	▲ 0.007	▲ 0.006	▲ 0.067
Connecticut	6.07	4.97	▲ 22.1%	▼ -4.9%	▲ 0.004	▲ 0.004	▲ 1.100
Delaware	4.76	4.42	▲ 7.6%	▼ -10.0%	▼ -0.009	▼ -0.007	▲ 0.333
Florida	4.82	4.95	▼ -2.6%	▼ -14.1%	▲ 0.003	▲ 0.007	▼ -0.133
Georgia	5.46	5.30	▲ 3.1%	▼ -12.1%	▲ 0.007	▲ 0.007	▲ 0.167
Hawaii	3.17	3.20	▼ -0.9%	▼ -19.3%	▲ 0.000	▲ 0.006	▼ -0.033
Idaho	4.49	3.76	▲ 19.3%	▼ -8.9%	▼ -0.020	▲ 0.006	▲ 0.700
Illinois	6.97	5.79	▲ 20.4%	▲ 8.6%	▼ -0.007	▲ 0.007	▲ 1.167
Indiana	5.33	4.43	▲ 20.5%	▼ -5.0%	▼ 0.000	▲ 0.007	▲ 0.900
Iowa	4.44	3.26	▲ 36.2%	▲ 0.3%	▼ -0.005	▲ 0.007	▲ 1.167
Kansas	4.20	3.62	▲ 15.8%	▼ -9.1%	▼ 0.000	▲ 0.007	▲ 0.567
Kentucky	6.14	5.19	▲ 18.2%	▲ 5.4%	▼ -0.004	▲ 0.007	▲ 0.933
Louisiana	6.06	5.44	▲ 11.5%	▼ -9.7%	▲ 0.015	▲ 0.007	▲ 0.633
Maine	4.44	3.76	▲ 18.1%	▼ -22.0%	▼ -0.008	▲ 0.004	▲ 0.667
Maryland	4.87	4.83	▲ 0.8%	▼ -14.0%	▲ 0.001	▲ 0.007	▲ 0.033
Massachusetts	4.73	4.53	▲ 4.5%	▼ -13.8%	▲ 0.001	▲ 0.004	▲ 0.200
Michigan	5.07	4.46	▲ 13.6%	▼ -18.6%	▲ 0.002	▲ 0.007	▲ 0.600
Minnesota	4.51	3.26	▲ 38.1%	▼ -0.4%	▼ -0.003	▲ 0.007	▲ 1.233
Mississippi	6.27	6.50	▼ -3.5%	▼ -6.2%	▲ 0.000	▲ 0.007	▼ -0.233
Missouri	4.83	3.92	▲ 23.1%	▼ -18.8%	▼ 0.000	▲ 0.007	▲ 0.900
Montana	5.09	4.04	▲ 26.0%	▲ 1.5%	▼ -0.009	▲ 0.006	▲ 1.033
Nebraska	3.30	2.70	▲ 22.3%	▲ 2.4%	▲ 0.005	▲ 0.007	▲ 0.600
Nevada	6.05	6.19	▼ -2.3%	▼ -16.3%	▼ -0.019	▲ 0.006	▼ -0.167
New Hampshire	3.10	2.93	▲ 5.6%	▼ -26.7%	▲ 0.007	▲ 0.004	▲ 0.167
New Jersey	4.83	4.53	▲ 6.6%	▼ -28.1%	▲ 0.004	▲ 0.004	▲ 0.300
New Mexico	6.31	6.29	▲ 0.4%	▼ -5.4%	▲ 0.013	▲ 0.006	▲ 0.033
New York	5.34	4.73	▲ 12.7%	▼ -12.8%	▲ 0.001	▲ 0.004	▲ 0.600
North Carolina	5.59	5.36	▲ 4.3%	▼ -3.8%	▲ 0.010	▲ 0.007	▲ 0.233
North Dakota	3.80	2.33	▲ 63.4%	▲ 12.2%	▼ -0.002	▲ 0.007	▲ 1.467
Ohio	5.57	4.46	▲ 24.9%	▼ -0.3%	▼ -0.002	▲ 0.007	▲ 1.100
Oklahoma	4.48	4.09	▲ 9.5%	▲ 5.3%	▼ -0.015	▲ 0.007	▲ 0.367
Oregon	5.07	5.27	▼ -3.7%	▼ -19.0%	▲ 0.001	▲ 0.006	▼ -0.200
Pennsylvania	5.34	4.30	▲ 24.1%	▼ -6.7%	▲ 0.001	▲ 0.004	▲ 1.033
Rhode Island	6.21	5.13	▲ 21.2%	▼ -13.6%	▼ -0.016	▲ 0.004	▲ 1.067
South Carolina	5.59	5.42	▲ 3.1%	▼ -13.7%	▲ 0.007	▲ 0.007	▲ 0.167
South Dakota	3.10	2.75	▲ 12.6%	▼ -19.6%	▼ -0.006	▲ 0.007	▲ 0.333
Tennessee	4.50	5.29	▼ -15.0%	▼ -26.6%	▲ 0.001	▲ 0.007	▼ -0.800
Texas	4.40	4.32	▲ 1.7%	▼ -1.1%	▼ -0.001	▲ 0.007	▲ 0.067
Utah	3.78	3.10	▲ 21.8%	▼ -3.2%	▼ -0.002	▲ 0.006	▲ 0.667
Vermont	3.74	3.19	▲ 17.3%	▼ -9.3%	▲ 0.018	▲ 0.004	▲ 0.567
Virginia	4.28	3.93	▲ 8.9%	▼ -13.8%	▼ -0.009	▲ 0.007	▲ 0.333
Washington	6.27	5.63	▲ 11.3%	▲ 1.1%	▲ 0.001	▲ 0.006	▲ 0.633
West Virginia	7.47	5.74	▲ 30.3%	▼ -2.2%	▲ 0.003	▲ 0.007	▲ 1.733
Wisconsin	5.23	4.09	▲ 27.8%	▼ -2.9%	▲ 0.001	▲ 0.007	▲ 1.133
Wyoming	5.72	4.31	▲ 32.6%	▲ 27.3%	▲ 0.001	▲ 0.006	▲ 1.400

The perception of our individual economic situation can be more closely related to our local environment than the state and national trends. Comparing the Misery Index for selected metropolitan areas gives insights as to how these data points can vary in smaller geographies.

### Misery Index

		Index Value		% Change in Index		Change in Index Components		
		2016 Q1	2015 Q4	Quarterly	Annual	HPI	CPI	UR
	U.S.	5.20	4.80	▲ 8.5%	▼ -10.6%	▼ -0.001	▲ 0.006	▲ 0.400
	Kansas	4.20	3.62	▲ 15.8%	▼ -9.1%	▼ 0.000	▲ 0.007	▲ 0.567
Kansas	Wichita, KS	4.60	4.07	▲ 13.0%	▼ -9.4%	▲ 0.025	▼ -0.014	▲ 0.567
	Kansas City, MO-KS	4.44	3.81	▲ 16.4%	▼ -21.5%	▼ -0.016	▲ 0.007	▲ 0.600
	Lawrence, KS	3.49	3.03	▲ 15.3%	▼ -12.5%	▲ 0.024	▼ -0.014	▲ 0.500
	Topeka, KS	4.39	3.64	▲ 20.6%	▼ -11.9%	▲ 0.036	▼ -0.014	▲ 0.800
Region	Oklahoma City, OK	3.79	3.48	▲ 8.7%	▲ 0.5%	▼ -0.018	▼ -0.014	▲ 0.300
	Omaha, NE	3.54	2.93	▲ 20.6%	▲ 1.5%	▲ 0.014	▼ -0.014	▲ 0.633
	St. Louis, MO-IL	5.13	4.36	▲ 17.8%	▼ -10.7%	▼ -0.002	▲ 0.007	▲ 0.767
	Tulsa, OK	4.52	4.12	▲ 9.6%	▲ 8.4%	▼ -0.012	▼ -0.014	▲ 0.400
Peer	Akron, OH	5.73	4.53	▲ 26.6%	▼ -1.1%	▼ -0.050	▼ -0.014	▲ 1.167
	Grand Rapids, MI	3.30	2.80	▲ 18.1%	▼ -23.0%	▲ 0.014	▼ -0.014	▲ 0.533
	Greenville, SC	4.92	4.65	▲ 5.9%	▼ -12.7%	▲ 0.002	▲ 0.007	▲ 0.267
	Lancaster, PA	4.12	3.19	▲ 29.2%	▼ -8.0%	▼ -0.021	▲ 0.010	▲ 0.900

Values are impacted by rounding.

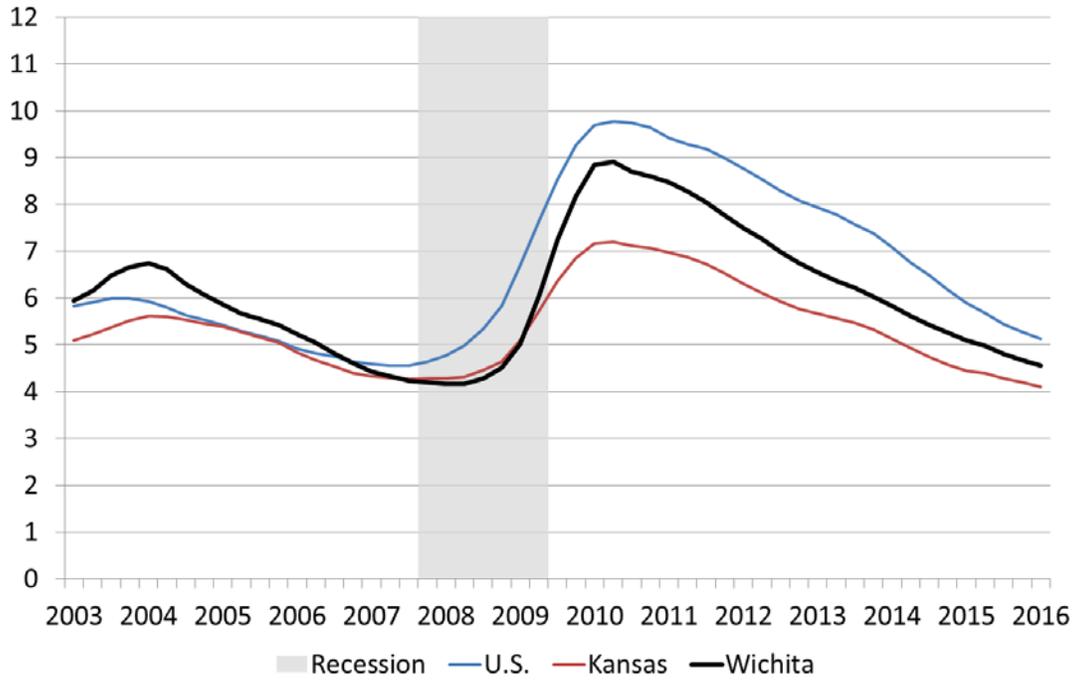
Within each of the metropolitan areas in Kansas, the misery index remains lower than in the United States as a whole. The misery level in Lawrence is lower than the state as a whole. Each of the other three metropolitan areas in the state, for which data is available, has a misery index higher than the state as a whole. The level of misery in Wichita decreased at approximately the same rate as the state over the past year. The level of misery in the other metropolitan areas of the state has decreased more than the state as a whole.

Within the region, St. Louis continues to have the highest level of misery, followed by Wichita and Tulsa. The lowest level of misery in the region is now Lawrence, followed by Omaha. All areas in the region have a lower level of misery than the United States as a whole.

For comparison, the misery index for four metropolitan areas similar to Wichita in population, demographics, and industrial mix are also provided. Within these peer communities, Akron has the highest level of misery. The level of misery in Akron and Greenville is currently higher than the level of misery in Wichita. These two cities generally have the most similar levels of misery.

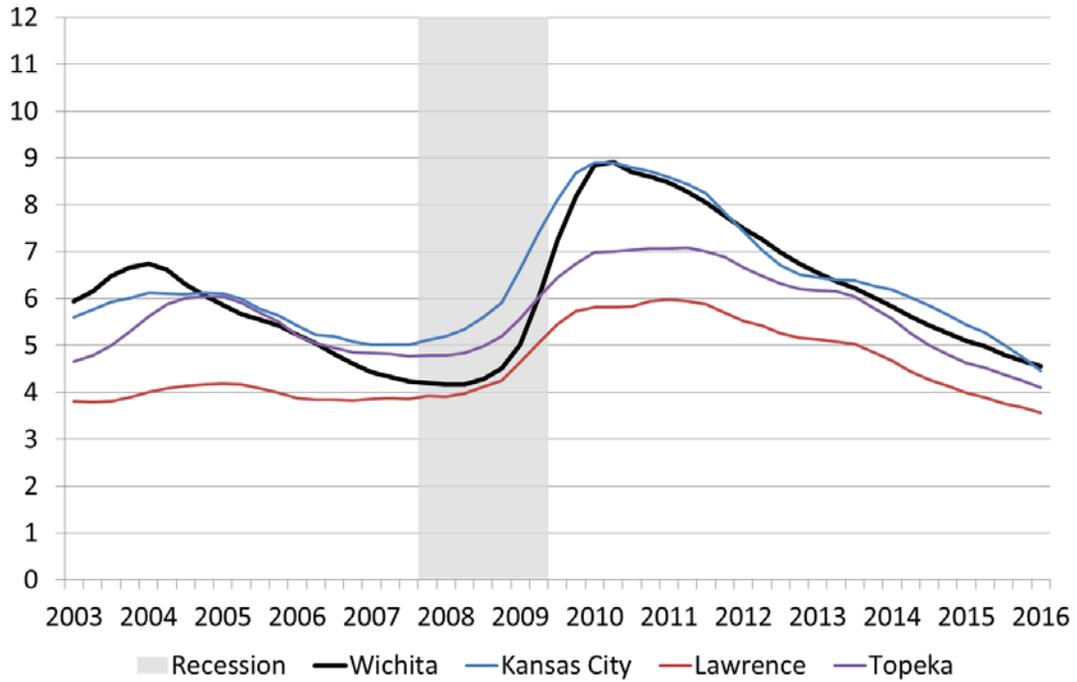
### Misery Index : Wichita, Kansas & United States

Annual Average



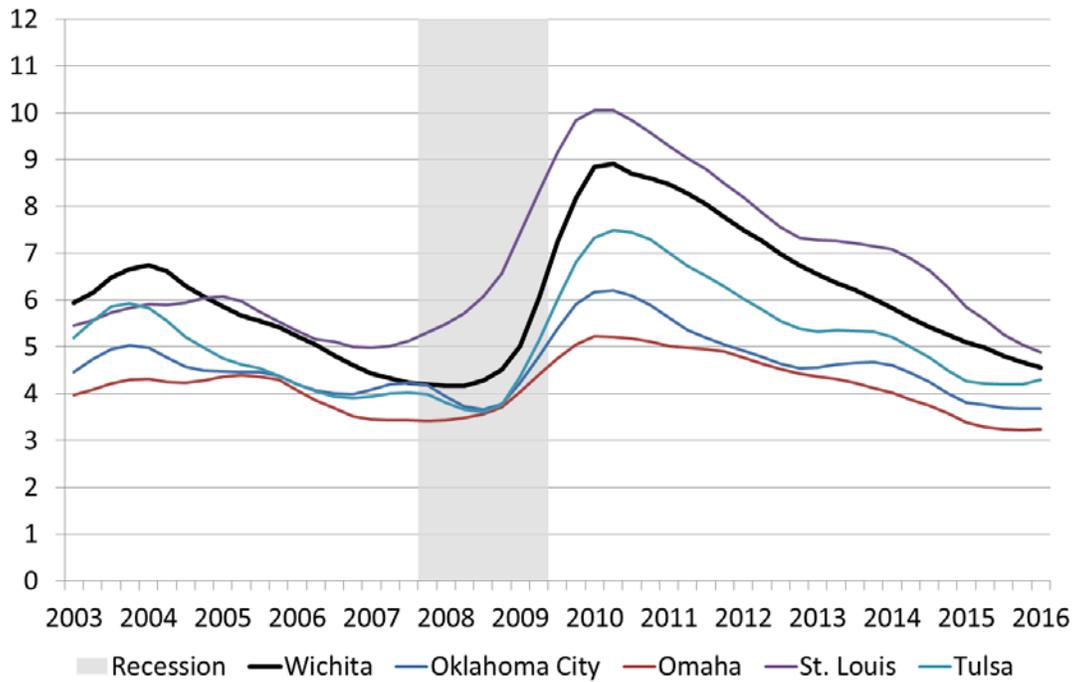
### Misery Index : Kansas Metropolitan Areas

Annual Average



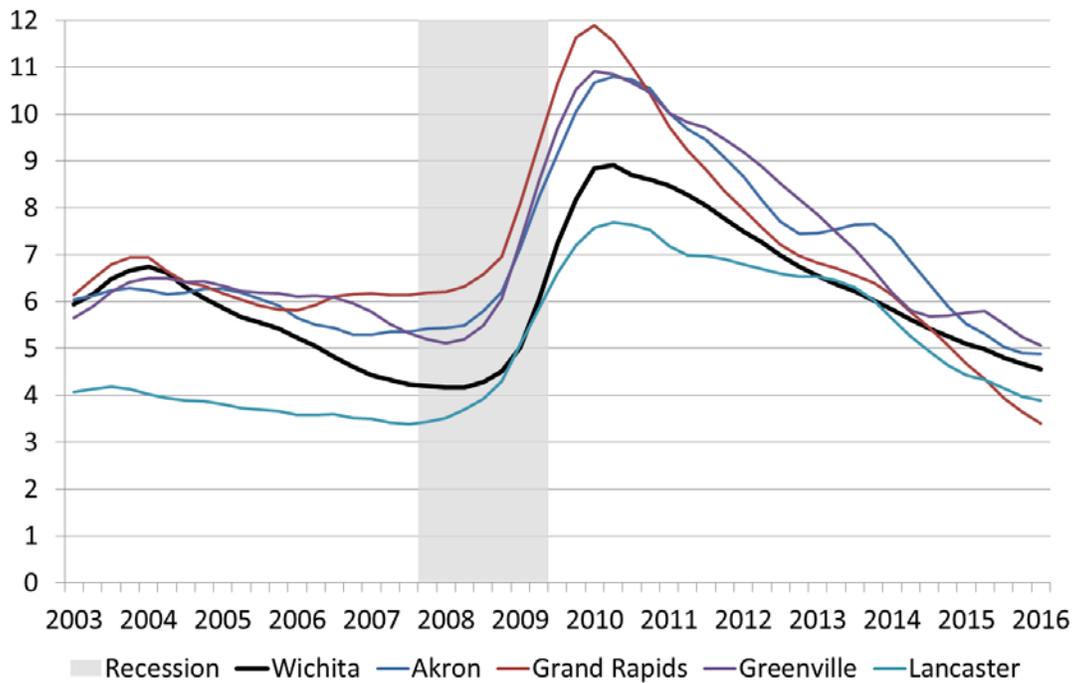
### Misery Index : Regional Metropolitan Areas

Annual Average



### Misery Index : Peer Metropolitan Areas

Annual Average



## Methodology

The Misery Index calculated by the Center for Economic Development and Business Research (CEDBR) includes the following information:

- The Consumer Price Index (CPI) from the Bureau of Labor Statistics<sup>1</sup>
- House Price Index (HPI) from the Federal Housing Finance Agency<sup>2</sup>
- Unemployment Rates (UR) from the Bureau of Labor Statistics<sup>3</sup>

Not seasonally adjusted, monthly data values for the Consumer Price Index – All Urban Consumers were used to calculate the quarterly inflation rates. The specific indices used are as follows.

- United States - U.S. city average, with a base period of 1982-84, was used for the United States inflation rate.
- States - Northeast urban, with a base period of 1982-84, was used for the inflation rate for the following states; Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania. South urban, with a base period of 1982-84, was used for the inflation rate for the following states; Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, and Texas. Midwest urban, with a base period of 1982-84, was used for the inflation rate for the following states; Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. West urban, with a base period of 1982-84, was used for the inflation rate for the following states; Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon and Washington.
- Metropolitan Areas - Midwest – Size Class A, with a base year of 1982-84, was used for the Kansas City and St. Louis metropolitan area's inflation rates. Midwest – Size Class B/C, with a base year of December 1996, was used for the Wichita, Topeka, Lawrence, Grand Rapids, Omaha, Akron, Oklahoma City and Tulsa metropolitan area's inflation rates. Northeast urban – Size Class B/C, with a base period of December 1996, was used for the Lancaster metropolitan area inflation rate. South – Size Class B/C, with a base period of December 1996, was used for the Greenville metropolitan area inflation rate.

The HPI is a measure of single family home prices within specific areas. This series is used because the index is produced for a wide range of geographic areas. The CEDBR used the "All-Transactions Index" values for each respective area. The percentage change from the previous quarter was used in the Misery Index. The HPI is a positive indicator for consumers. Therefore, if the HPI is increasing, the Misery Index will decline.

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<sup>1</sup> <http://www.bls.gov/cpi/> Data accessed May 24, 2016.

<sup>2</sup> <http://www.fhfa.gov/Default.aspx?Page=87> Data accessed May 25, 2016.

<sup>3</sup> <http://www.bls.gov/bls/unemployment.htm> Data accessed May 24, 2016.

The CEDBR used not seasonally adjusted, area specific, unemployment data (the official unemployment rate) to calculate the Misery Index. The unemployment rate is a negative indicator for consumers. Therefore, if the unemployment rate is increasing, the Misery Index will also increase.