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Changes in Industry Employment in the United States and East Texas - March 2019

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Hibbs Newsletter

Hibbs Institute for Business & Economic Research

March 2019



Employment Industry Changes In The United States

In this issue of the Hibbs Newsletter we discuss how the concentration of employment in different industries in the U.S. and East Texas has changed during the last several decades.

The most common way of classifying employment by businesses is to use the North American Industry Classification System (NAICS), a system that starts with 20 main business categories or industry sectors, commonly known as 2-digit industries. This initial broad classification ranges from agriculture and construction, to manufacturing and service-related industries, such as healthcare or entertainment. Each of those 20 main industry categories are comprised of detailed sub-sector industry classifications going all the way to specific 6-digit lists of all kinds of business activities, such as finding under *Sector 44 Retail Trade*, the six-digit business category *441221 Motorcycle, ATV, and Personal Watercraft Dealers*.

How employment is concentrated across industries in the U.S. – and East Texas – has changed substantially during the last several decades. Early in the 1990s, manufacturing (NAICS 31-33) was the dominant employer in the nation. See **Figure 1**. Indeed, 36 states employed more workers in the manufacturing than any other industry sector in 1990.¹

Later, the preponderance of U.S. jobs moved gradually to retail trade. By 2003, retail trade became the leading employer in 21 states, with manufacturing falling to second place with 17 states. By 2017, just seven years later, Health and Social Assistance became the largest employing industry, capturing the top spot in 30 states. That trend has continued through 2017, with Health Care and Social Assistance industry becoming the largest employer in 34 states and doubling in size, from 9.1 million employees in 1990 to just over 19 million in 2017.

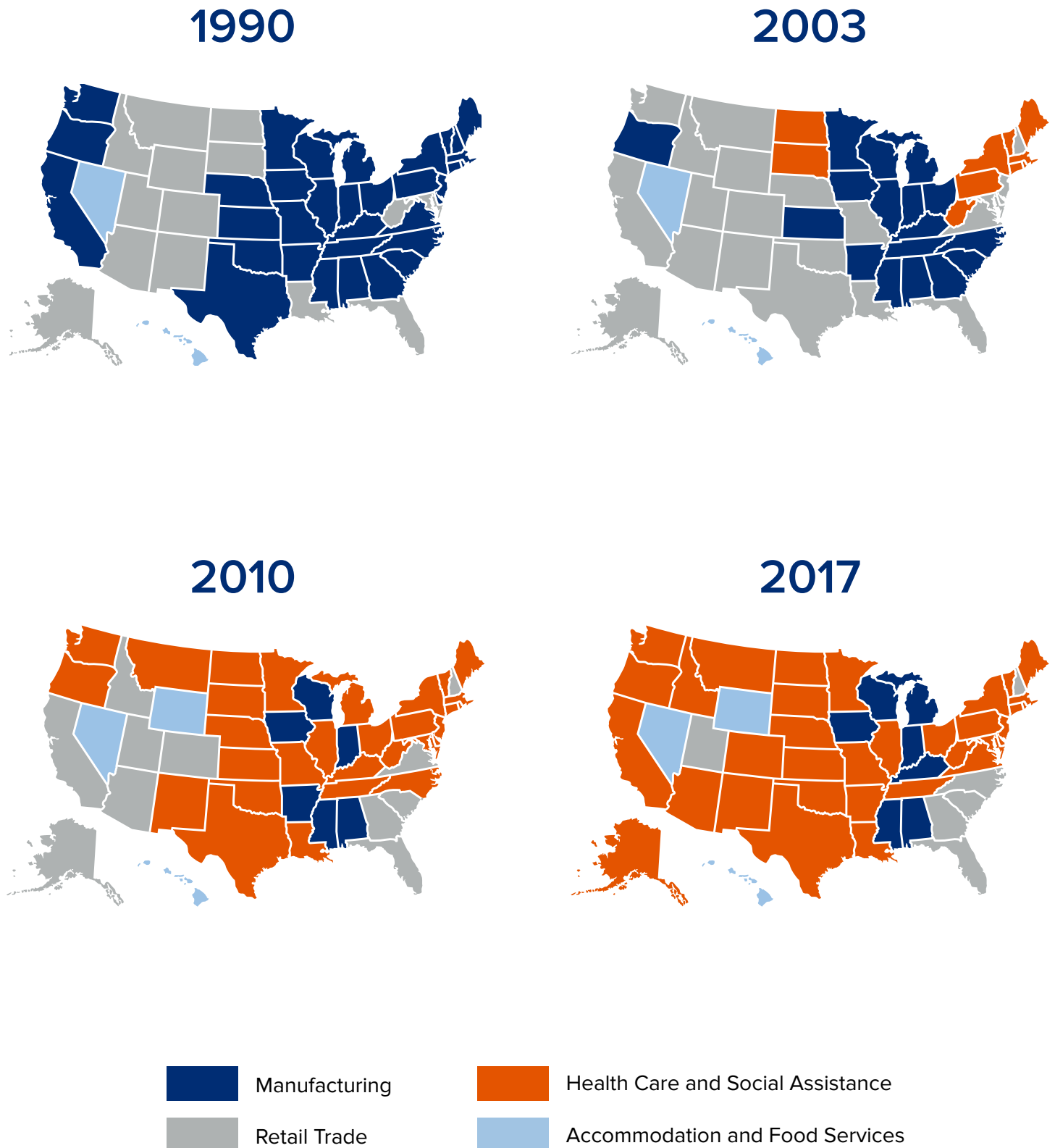
In summary, the U.S. has moved away from being a predominantly manufacturing nation to a service oriented country in just 27 years.

The reasons are too numerous to be detailed and explained here. Look for that topic in a future issue. For now, we simply note the importance of aging baby boomers to explosive health care growth, and the increase in imports and labor-saving technology to the plummeting of the manufacturing employment. Regarding the latter, most economic studies support the idea that manufacturing job losses are more tied to automating than offshoring.

¹ Bureau of Labor Statistics, U.S. Department of Labor, The Economics Daily, Largest industries by state, 1990–2013 on the Internet at www.bls.gov/opub/ted/2014/ted_20140728.htm (visited February 14, 2019).

Figure 1

Major Industries with Highest Employment, by State (selected years)



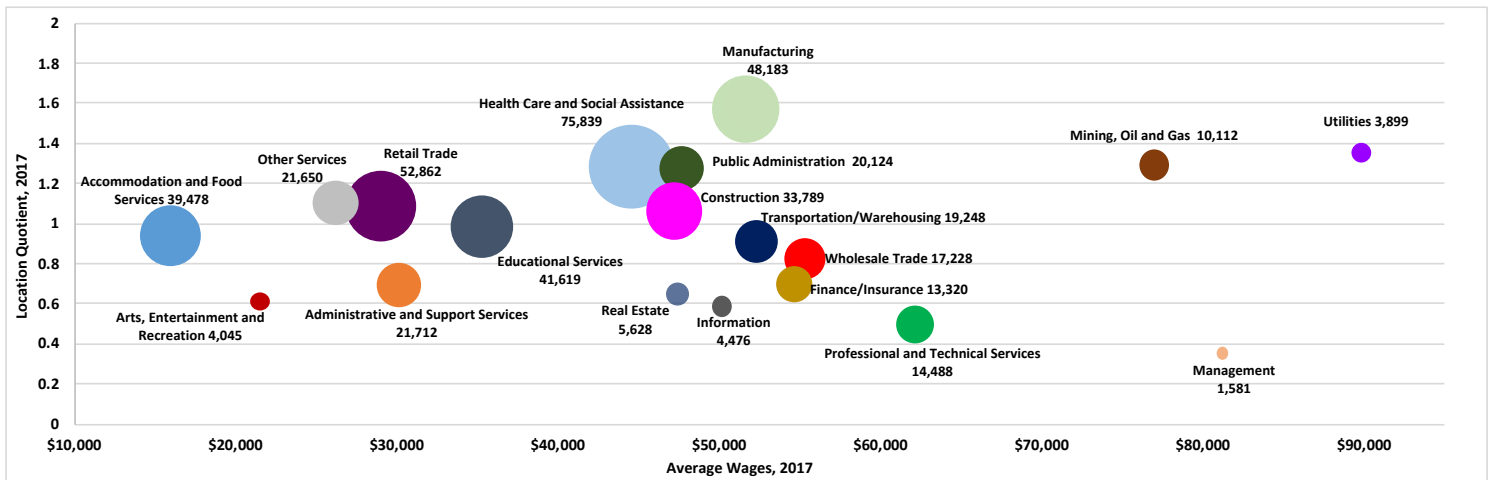
EAST TEXAS - 23 COUNTIES

Employment by Industry

The relative size of the industries, measured by the number of employees working in each industry, are illustrated in **Figure 2** by the size of the bubbles. The largest industries in 2017 were: 1) Health Care and Social Assistance, with 75,839 employees; 2) Retail Trade, with 52,862 employees; 3) Manufacturing, with 48,183; 4) Educational Services, with 41,619 employees; and 5) Accommodation and Food Services, with 39,478.

The horizontal axis in **Figure 2** measures the average wages paid in each industry. Jobs in the Utilities, Management, and Mining /Oil and Gas industries are the best paid with average annual wages above \$75,000. The vertical axis measures the Location Quotients (LQ)² of each industry with respect to Texas. An LQ of 1.57 in the Manufacturing industry implies that this industry has 57% more employees in East Texas than the Texas average. Similarly, an LQ of 1.28 in the Health Care and Social Assistance industry suggests that this industry employs 28% more people than the state average. Given the large size of these two industries, they can be considered local industry clusters.

Figure 2. Industry Employment Profile, 2017 (East Texas)



Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ. Location Quotient calculations made by the Hibbs Institute.
Note: Employment figures exclude Agriculture, Forestry, Fishing and Hunting Industry for obvious reasons.

² The Location Quotient (LQ) is one of the most commonly utilized methods in *Regional Economics*. Essentially, this technique compares the share of employment in a local economy for some industries to the share of jobs in a reference economy (typically the state or the nation) for the same industry. Location Quotients are very useful to identify areas of specialization generally resulting from the labor force characteristics, geographic location, or a competitive advantage with respect to other areas.

$$LQ = \frac{(\text{Employment in Industry } x \text{ in East Texas} / \text{Total Employment in East Texas})}{(\text{Employment in Industry } x \text{ in Texas} / \text{Total Employment in Texas})}$$

Interpretation:

An LQ = 1 means that the area under consideration (East Texas in this case) has the same percentage of employment in that industry as does the area it is being compared to (in this case, Texas).

An LQ < 1 means that such sector is under-represented in East Texas because it has a smaller percentage of employees than does the state.

An LQ > 1 means that the proportion of employment in such sector is X times greater than the proportion of employment in Texas.

TYLER AREA

Employment by Industry

The Tyler Area industry that experienced the largest employment growth since 2010 is Accommodation and Food Services, with 19.3% (**Figure 3**). Next on the list are Wholesale Trade (16.8%), Transportation / Warehousing (13.3%), and Health Care and Social Assistance (11.9%). The considerable decrease in the Mining, Oil and Gas industry (-18.4%) may be a result of the local efforts to diversify the Tyler's economy, as well as the oil and gas price volatility. Nevertheless, a LQ of 1.44 (**Table 1**) indicates that local employment in this industry is 44% larger than the state average.

The industry with the largest number of jobs in Tyler Area is Health Care and Social Assistance with a share of 17.6% of total employment, followed by Retail (11.6%), Accommodation and Food Services (8.7%), and Education (8.5%).

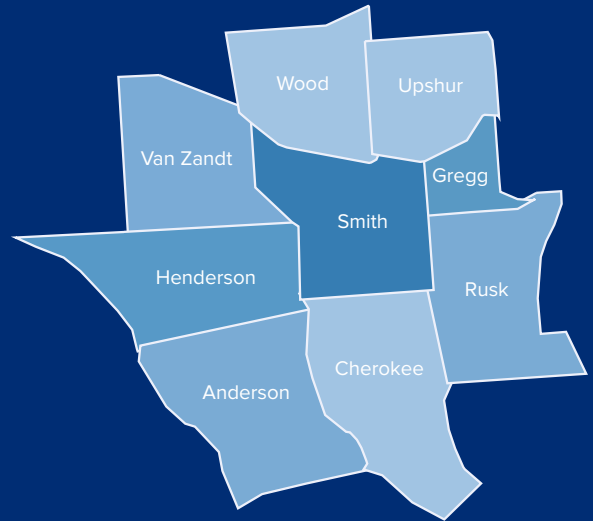
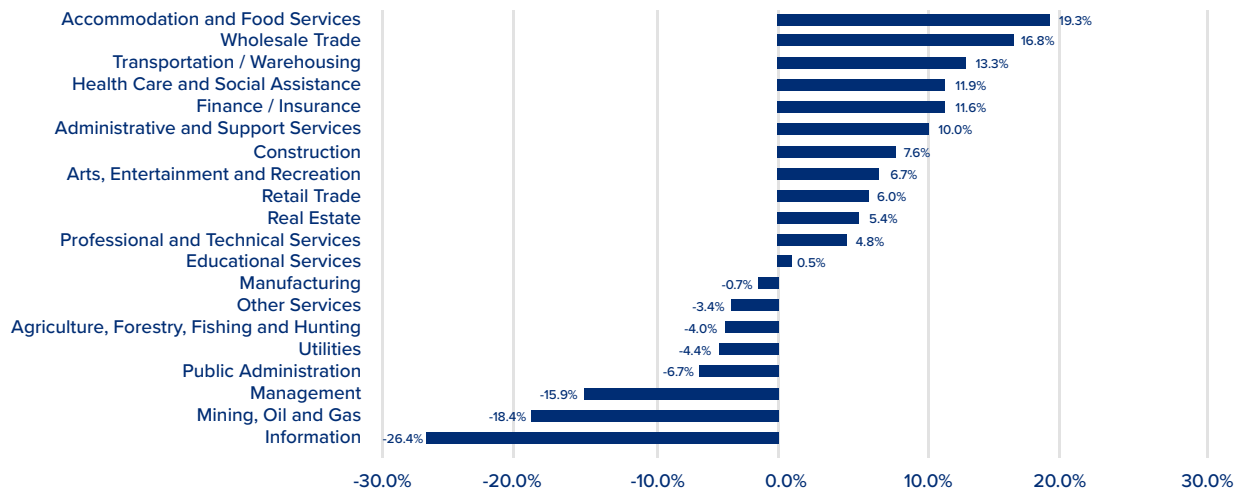


Figure 3. Industry Employment Change over 8 years, 2010-2017 (Tyler Area)



Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ.

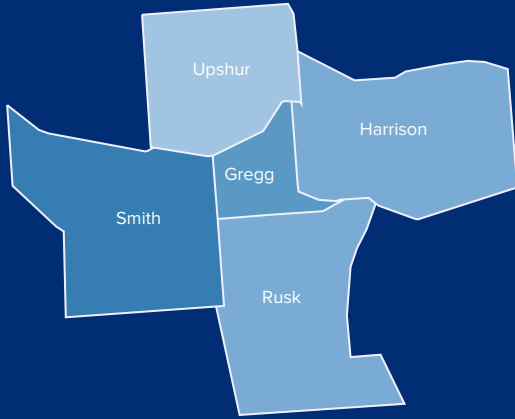
Table 1. Industry Employment, Outlook (Tyler Area)

Industry	Industry Share	Avg Ann Wages	Employment by Industry (selected years)			LQ (Texas)
			2003	2010	2017	
Agriculture, Forestry, Fishing and Hunting	3.1%	\$15,209	10,956	9,780	9,391	2.49
Mining, Oil and Gas	2.5%	\$79,764	6,158	9,096	7,425	1.44
Utilities	0.7%	\$73,626	2,269	2,283	2,181	1.15
Construction	7.7%	\$46,806	19,524	21,435	23,060	1.10
Manufacturing	7.8%	\$51,031	27,945	23,573	23,418	1.16
Wholesale Trade	3.7%	\$58,029	8,798	9,518	11,115	0.81
Retail Trade	11.6%	\$29,354	37,970	32,839	34,818	1.09
Transportation / Warehousing	4.4%	\$51,631	7,882	11,607	13,153	0.94
Information	1.1%	\$53,069	4,894	4,560	3,355	0.67
Finance / Insurance	2.9%	\$57,781	8,222	7,909	8,823	0.70
Real Estate	1.3%	\$49,165	3,491	3,689	3,889	0.68
Professional and Technical Services	3.6%	\$64,986	8,469	10,268	10,760	0.56
Management	0.3%	\$88,189	730	1,222	1,028	0.35
Administrative and Support Services	5.0%	\$31,303	10,543	13,536	14,893	0.72
Educational Services	8.5%	\$35,602	23,959	25,504	25,632	0.92
Health Care and Social Assistance	17.3%	\$47,907	41,372	46,368	51,902	1.33
Arts, Entertainment and Recreation	1.0%	\$22,443	2,524	2,774	2,960	0.68
Accommodation and Food Services	8.7%	\$16,049	19,204	21,868	26,082	0.94
Other Services	4.8%	\$25,666	14,508	14,894	14,383	1.11
Public Administration	3.9%	\$45,399	10,889	12,455	11,616	1.12

Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ. Location Quotient calculations made by the Hibbs Institute.

LONGVIEW AREA

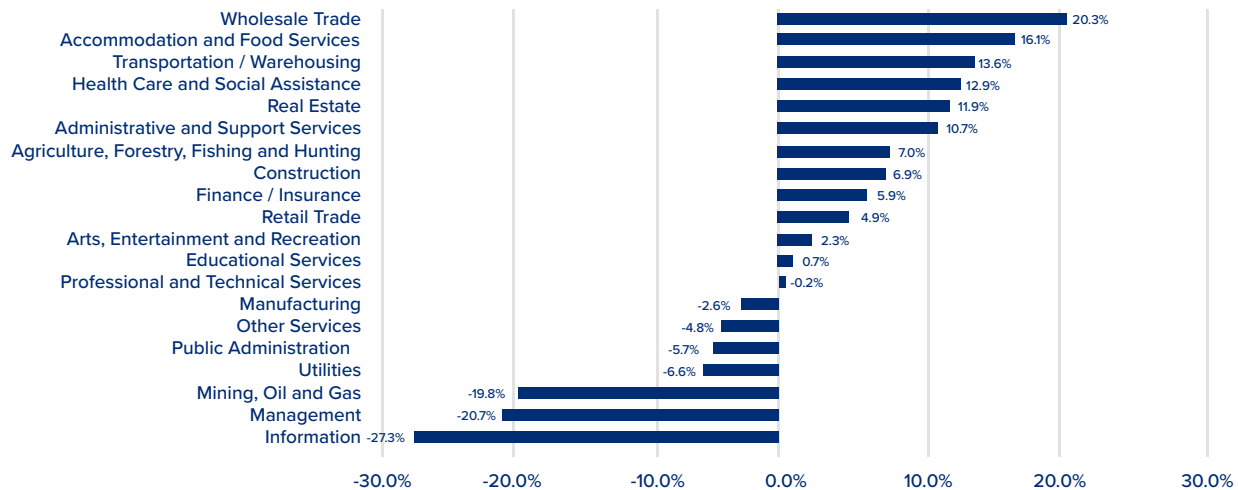
Industry Employment



The Longview Area industry that experienced the largest employment growth since 2010 is Wholesale Trade, with 20.3% (Figure 4). Next on the list are Accommodation and Food Services (16.1%), Transportation / Warehousing (13.6%), and Health Care and Social Assistance (12.9%). The considerable decrease in the Mining, Oil and Gas industry (-19.8%) may be a result of the local efforts to diversify the Longview's economy, as well as the oil and gas price volatility. Nevertheless, a LQ of 1.93 (Table 2) indicates that local employment in this industry is 93% larger than the state average.

The industry with the largest number of jobs in Longview Area is Health Care and Social Assistance with a share of 17.9% of total employment, followed by Retail (11.5%), Accommodation and Food Services (8.7%), and Manufacturing (8.6%).

Figure 4. Industry Employment Change over 8 years, 2010 – 2017 (Longview Area)



Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ.

Table 2. Industry Employment, Outlook (Longview Area)

Industry	Industry Share	Avg Ann Wages	Employment by Industry (selected years)			LQ (Texas)
			2003	2010	2017	
Agriculture, Forestry, Fishing and Hunting	1.9%	\$14,899	4,638	4,354	4,658	1.54
Mining, Oil and Gas	3.3%	\$79,187	5,888	9,934	7,963	1.93
Utilities	0.7%	\$83,267	1,708	1,767	1,650	1.09
Construction	7.6%	\$48,603	14,680	17,095	18,274	1.09
Manufacturing	8.6%	\$57,614	26,192	21,092	20,546	1.27
Wholesale Trade	4.1%	\$57,601	7,453	8,169	9,825	0.89
Retail Trade	11.5%	\$29,863	28,081	26,278	27,564	1.08
Transportation / Warehousing	3.9%	\$53,137	6,160	8,242	9,367	0.84
Information	1.2%	\$54,254	4,191	3,929	2,857	0.71
Finance / Insurance	3.1%	\$57,832	6,886	7,024	7,441	0.74
Real Estate	1.4%	\$52,029	2,768	2,965	3,319	0.73
Professional and Technical Services	3.7%	\$67,337	7,241	8,972	8,992	0.59
Management	0.4%	\$86,142	640	1,096	868	0.37
Administrative and Support Services	5.3%	\$31,084	9,099	11,594	12,829	0.78
Educational Services	8.3%	\$35,508	18,422	19,658	19,790	0.89
Health Care and Social Assistance	17.9%	\$50,364	32,643	37,987	42,873	1.38
Arts, Entertainment and Recreation	0.9%	\$22,113	1,840	2,119	2,167	0.62
Accommodation and Food Services	8.7%	\$16,244	15,623	17,891	20,774	0.94
Other Services	4.9%	\$27,306	12,235	12,452	11,858	1.15
Public Administration	2.5%	\$50,155	5,381	6,485	6,116	0.74

Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ. Location Quotient calculations made by the Hibbs Institute.

TEXARKANA AREA

Industry Employment

The Texarkana Area industry that experienced the largest employment growth since 2010 is Mining, Oil and Gas, with 24.5% (**Figure 5**). Next on the list are Accommodation and Food Services (22.2%), Transportation / Warehousing (8.6%), and Arts, Entertainment and Recreation (7.7%). The decrease in employment figures on several industries in Texarkana may be a result of a local economy contraction of 0.6% with respect to 2010, and a relative lower diversification of the economy (fewer industries are employing more people).

The industries with the largest number of jobs in Texarkana Area are Health Care and Social Assistance with a share of 16.1% of total employment, and Retail with 11.4% of total jobs in the Area.

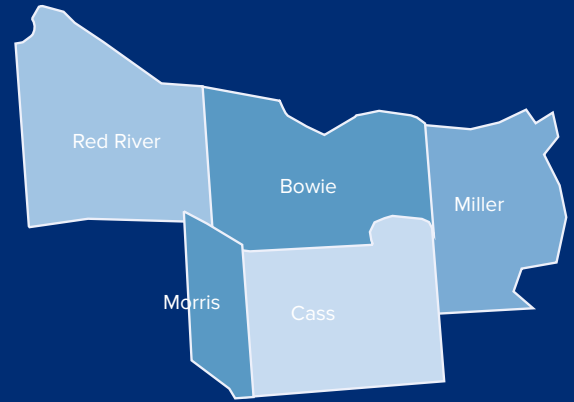
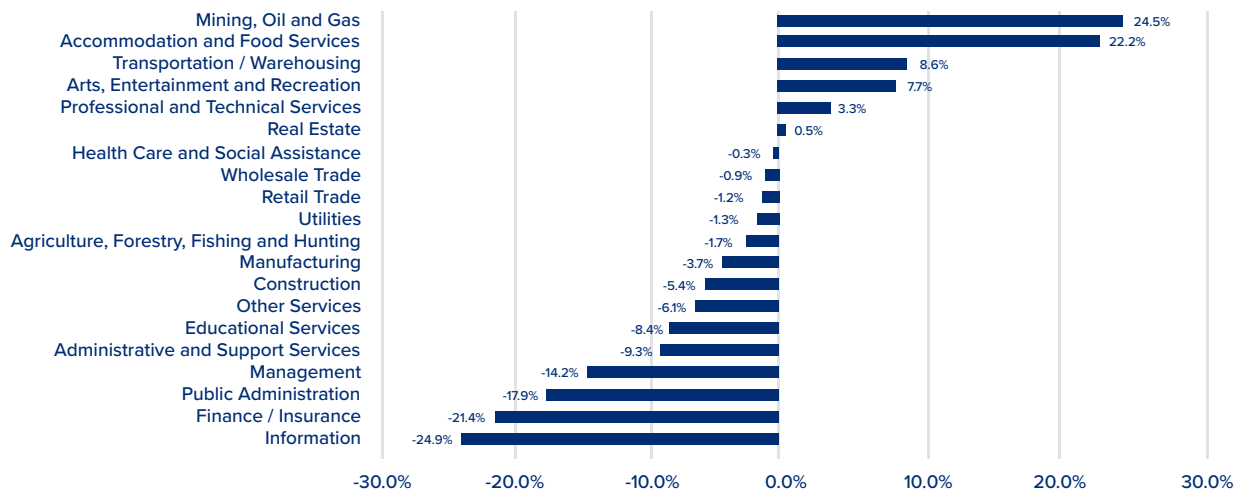


Figure 5. Industry Employment Change over 8 years, 2010-2017 (Texarkana Area)



Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ.

Table 3. Industry Employment, Outlook (Texarkana Area)

Industry	Industry Share	Avg Ann Wages	Employment by Industry (selected years)			LQ (Texas)
			2003	2010	2017	
Agriculture, Forestry, Fishing and Hunting	3.4%	\$20,745	2,849	2,594	2,550	2.69
Mining, Oil and Gas	0.3%	\$61,575	134	188	234	0.18
Utilities	0.6%	\$63,178	474	462	456	0.95
Construction	5.2%	\$43,677	4,702	4,137	3,914	0.74
Manufacturing	9.7%	\$56,745	9,780	7,604	7,320	1.44
Wholesale Trade	3.8%	\$51,307	2,586	2,914	2,886	0.84
Retail Trade	11.4%	\$26,863	9,368	8,698	8,595	1.07
Transportation / Warehousing	5.4%	\$47,617	3,202	3,737	4,059	1.16
Information	0.7%	\$43,998	657	679	510	0.41
Finance / Insurance	2.6%	\$48,927	2,033	2,539	1,994	0.63
Real Estate	1.3%	\$40,240	1,010	938	942	0.66
Professional and Technical Services	2.3%	\$51,742	1,604	1,713	1,770	0.37
Management	0.6%	\$58,646	153	485	416	0.56
Administrative and Support Services	4.2%	\$26,869	3,073	3,488	3,162	0.61
Educational Services	9.2%	\$37,055	6,878	7,546	6,909	0.99
Health Care and Social Assistance	16.1%	\$39,536	12,198	12,174	12,136	1.24
Arts, Entertainment and Recreation	0.9%	\$17,516	549	614	662	0.60
Accommodation and Food Services	9.5%	\$16,071	5,221	5,873	7,176	1.03
Other Services	4.4%	\$24,584	3,682	3,491	3,278	1.01
Public Administration	8.4%	\$52,035	5,607	7,693	6,317	2.42

Source: Quarterly Census of Employment and Wages (QCEW); Bureau of Labor Statistics, provided by JobsEQ. Location Quotient calculations made by the Hibbs Institute.

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The Hibbs Institute for Business and Economic Research is a unit of The University of Texas at Tyler's Soules College of Business. The mission of the Hibbs Institute is to provide expert research and analysis for businesses, local governments, and economic development councils with the common goal of increasing economic activity and personal income in East Texas.

Services provided: economic impact analysis; industry/firm economic contribution studies; policy analysis; strategic planning; project analysis; and business and economic forecasting.

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