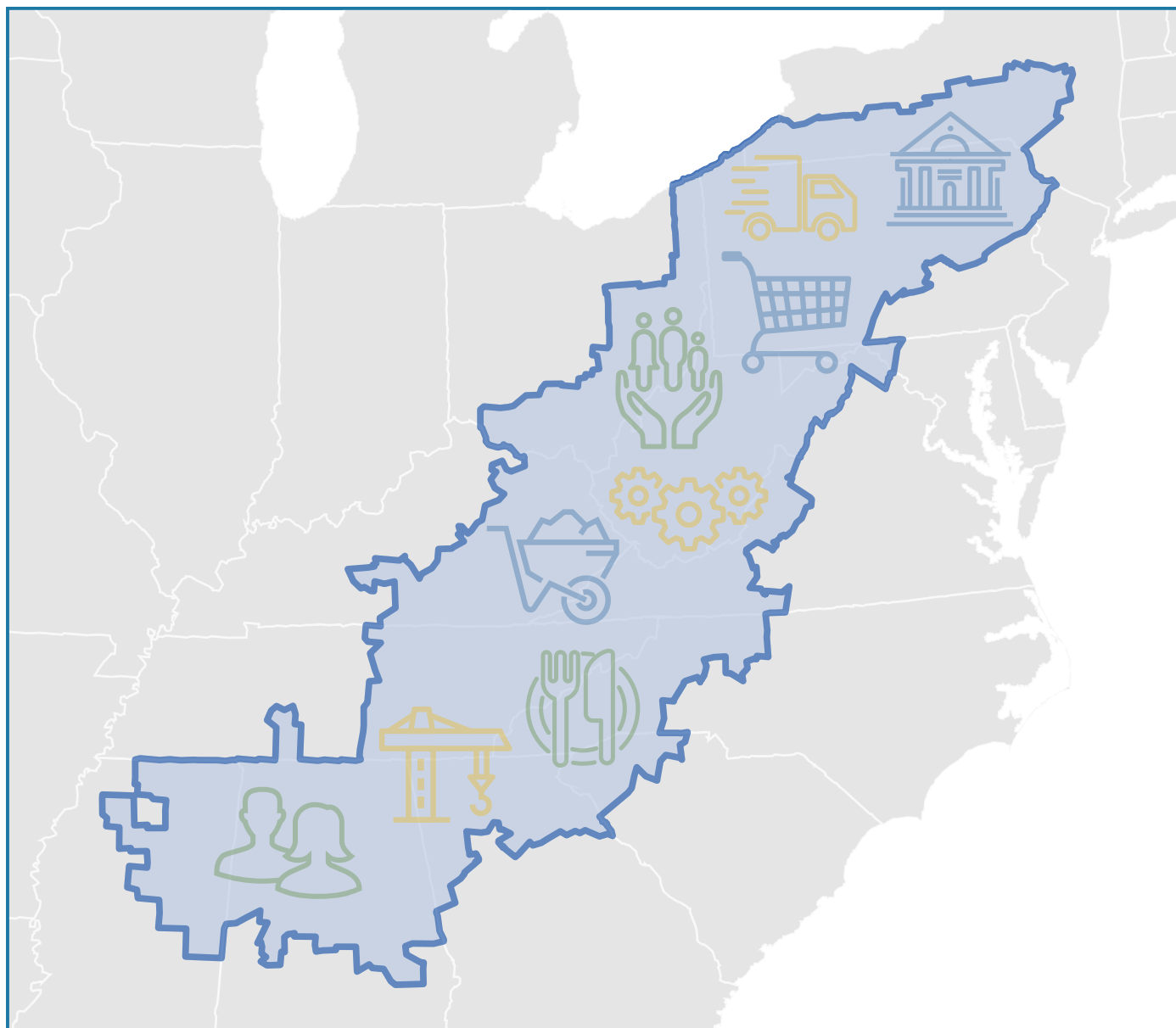


# INDUSTRIAL MAKE-UP OF THE APPALACHIAN REGION

Employment and Earnings, 2002–2017



Division of Research & Evaluation  
**Appalachian Regional Commission**  
November 2019

## Preface

This report looks at the industrial make-up of the Appalachian Region compared to the United States as a whole, as well as differences within the Region. Broad industrial categories are considered—15 in total—and for each one of these, both employment and earnings are examined. The report focuses on the current industrial make-up and recent changes that have taken place.

**Chapter One** provides a brief introduction to the Appalachian Region and the data used in this report.

**Chapter Two** offers an overview of total employment in the Region and how it compares over time with total employment in the United States. Population data are included to provide context.

**Chapter Three** introduces the 15 industrial categories and then examines employment data for each of these categories. Discussion here is focused on the 2002–2017 period.

**Chapter Four** examines total earnings across Appalachia, and how both overall earnings and earnings per employee compare with those in the United States as a whole.

**Chapter Five** offers a breakdown of earnings by industry. Emphasis is given to earnings per employee, and how these data may have changed during the 2002–2017 period.

**Chapter Six** offers key takeaways and a conclusion.

*This report was prepared by Logan Thomas, Division of Research & Evaluation, Appalachian Regional Commission.*

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## Chapter 1: Introduction

### The Appalachian Region

The Appalachian Region, as defined in the Appalachian Regional Commission’s authorizing legislation, is a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Forty-two percent of the Region’s population is rural compared with 20 percent of the national population.

An act of Congress established the Appalachian Regional Commission (ARC) in 1965 to address the Region’s lack of socioeconomic development compared to the United States as a whole. The stated mission of ARC is to help Appalachia “achieve socioeconomic parity with the nation.” The Region has come a long way in the past 54 years; for example, its poverty rate, which was 31 percent in 1960, now sits at 16.3 percent, according to data from the 2013–2017 American Community Survey (ACS). However, socioeconomic performance in Appalachia still lags when compared to national figures.

A recent report sponsored by the Commission, *The Appalachian Region: A Data Overview from the 2013–2017 American Community Survey*, looked at a wide range of socioeconomic data from the 2013–2017 ACS and compared performance in the Region to that in the nation as a whole. For the majority of indicators, Appalachia remained well behind the United States overall. For example, though high school graduation rates in the Region matched those in the country overall, a much smaller percentage of the population obtained a bachelor’s degree or higher. Median household income was lower, and the poverty rate—while much improved since 1960—remained higher in the Region than in the country overall. And though the current unemployment rate is low and comparable to the national figure, labor force participation remains much lower in the Region.

This is all to say that the Appalachian Region, while making great strides in the last 50 years, still generally lags behind the United States in socioeconomic development. The discussion that follows does not attempt to draw correlations between the Region’s industrial make-up and socioeconomic issues, nor does it claim to be prescriptive in any way (for example, by stating that a specific industry may improve the Region’s socioeconomic well-being). Rather, what follows is a descriptive analysis of the economic make-up of the Region—of both employment and earnings—with emphasis given to how this may have changed over recent years.

### Data Source

All data used in this report, unless otherwise noted, come from the Woods & Poole 2019 Complete Economic and Demographic Data Source (CEDDS), which includes historical data from 1969 to 2017 for each county in the United States. Underlying data for employment and earnings come primarily from the Bureau of Economic Analysis (BEA); as such, BEA’s county and county-level equivalents are used in the dataset.

Employment counts include all full- and part-time jobs by place of work. These include wage and salary workers, proprietors, private household employees, and miscellaneous workers. Since these data are based on an establishment survey (i.e., a survey of business establishments, government agencies, and all other entities where people may be employed), employment is counted at *place of work*, as opposed to place of residence. Naturally, this affects the way we look at the data presented here; we are



examining employment *in* the Region, which is different from the employment held by the people living in the Region. Certainly, there is a great deal of overlap—people living and working in the same counties—but it is worth noting that, according to the ARC report examining 2013–2017 ACS data, 31.7 percent of Appalachian residents worked outside of the county they live in, which was slightly higher than the number for the United States as a whole (27.6 percent). Additionally, employment is classified based on the primary activity of an establishment, meaning that all employees are counted in the same industry, regardless of job duties. For example, an administrative assistant for a timber company is counted as a forestry worker.

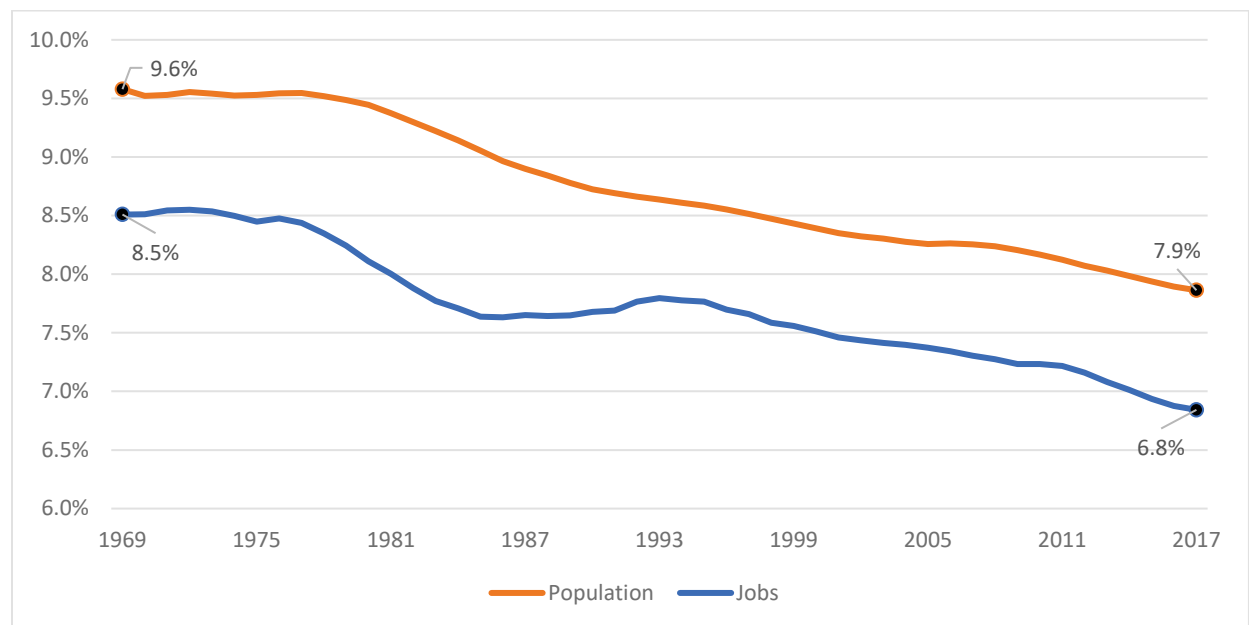
Earnings data follows the same general guidelines as employment, with all data counted at the place of work, not the place of residence. Earnings include wages and salaries, other labor income, and proprietors' income. Also included are personal contributions for social insurance.

## Chapter 2: Employment

### Population and Employment

As is the case for any region in the United States, Appalachia is home to only a fraction of the country's population—and only a fraction of the jobs, as well. If we were to consider any region from a macro level, especially one as large as Appalachia, we would expect to see these fractions be relatively close to one another. For example, if 10 percent of the U.S. population lives in Appalachia, one might reasonably expect to find 10 percent of U.S. jobs in the Region, as well. While this may be an overly simplistic view of the economy of a region, it allows for an easy-to-understand—yet still meaningful—analysis of a region's economy.

**Figure 1: Percentage of U.S. population and employment in Appalachia, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 1, we see the percentage of the United States' total population and employment found in Appalachia from 1969 to 2017. As can be seen, the Region's share of both have declined over the past half-century; in terms of population, from 9.6 percent in 1969 to 7.9 percent in 2017, and in terms of employment, from 8.5 percent to 6.8 percent over the same period. Also important to note is the gap between the two, which can be interpreted to indicate that there are—and have been—fewer jobs available per person in Appalachia than elsewhere in the country.

To examine this gap with a little more nuance, considering the following ratio:

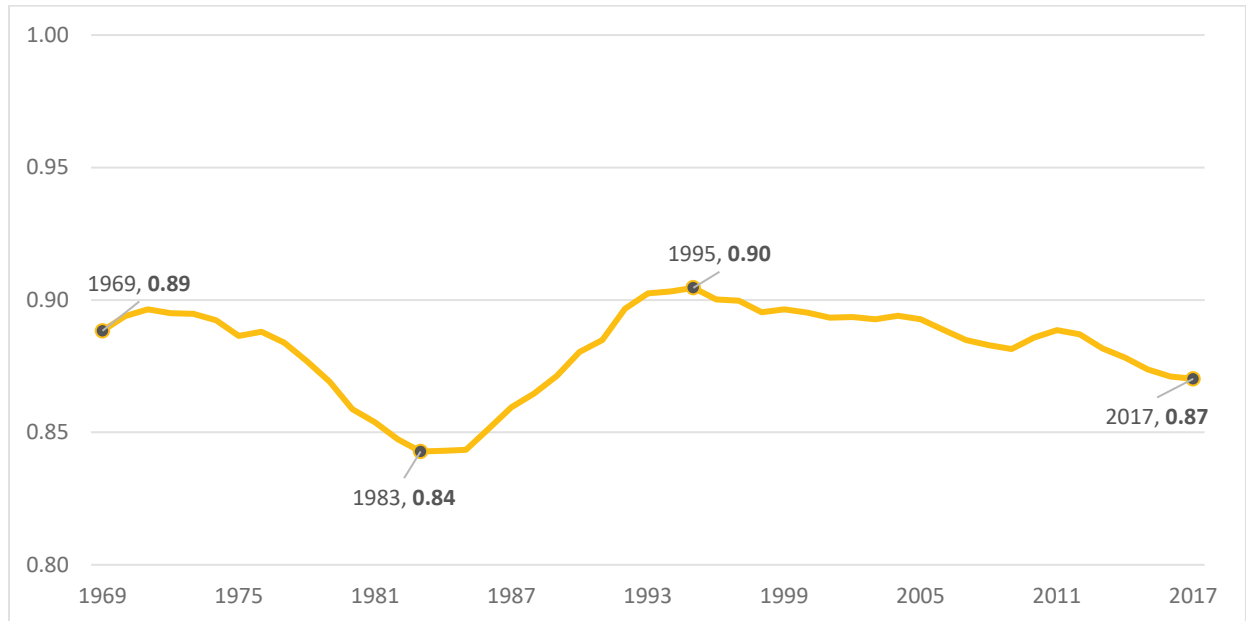
$$\text{Appalachia's share of U.S. employment} / \text{Appalachia's share of U.S. population}$$

In 1969, for example, this ratio would be 0.89, with the calculation as follows:

$$8.51 / 9.58 = 0.89$$

Figure 2 shows how this ratio has changed over time. A value of 1.0 would indicate that the Region's shares of U.S. employment and population are equal. However, the highest ratio Appalachia has ever achieved was 0.90 in 1995. The lowest was 0.84 in 1983.

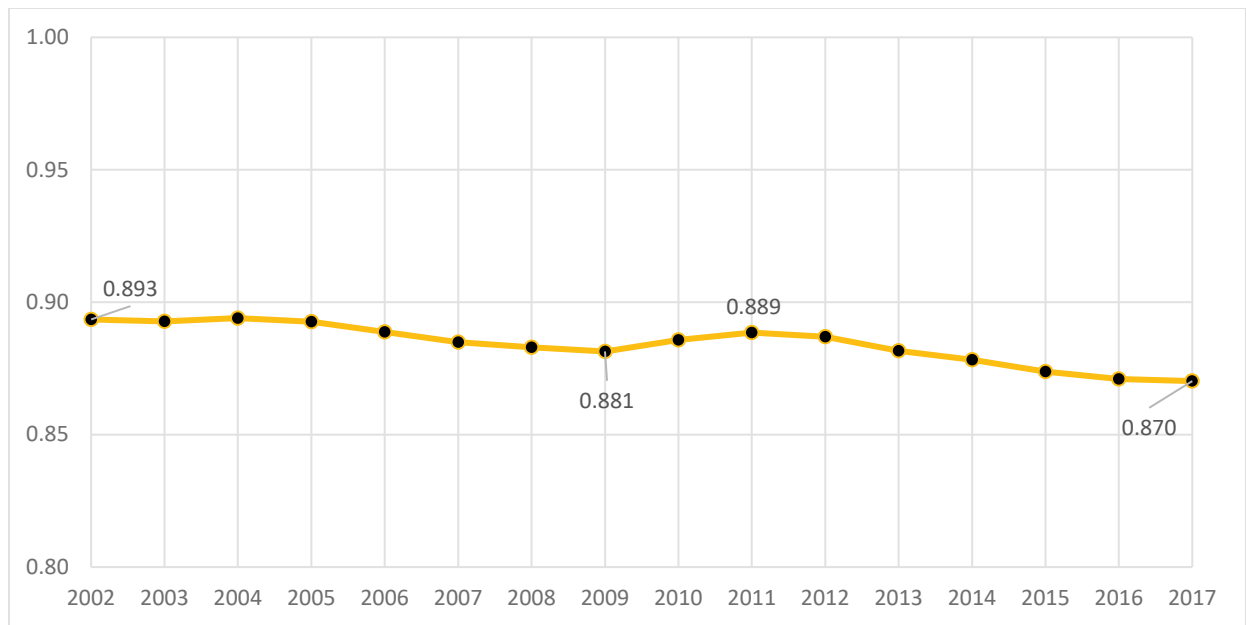
**Figure 2: Ratio of Appalachia's share of U.S. employment to share of U.S. population, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

By limiting the period to 2002–2017, we are better able to examine recent changes, including those that took place prior to, during, and just after the Great Recession (December 2007–June 2009, according to the National Bureau of Economic Research). Using the same scale along the y-axis as that in Figure 2, Figure 3 shows that changes have been much subtler over the past 15 years. However, the trendline has a slight downward slope.

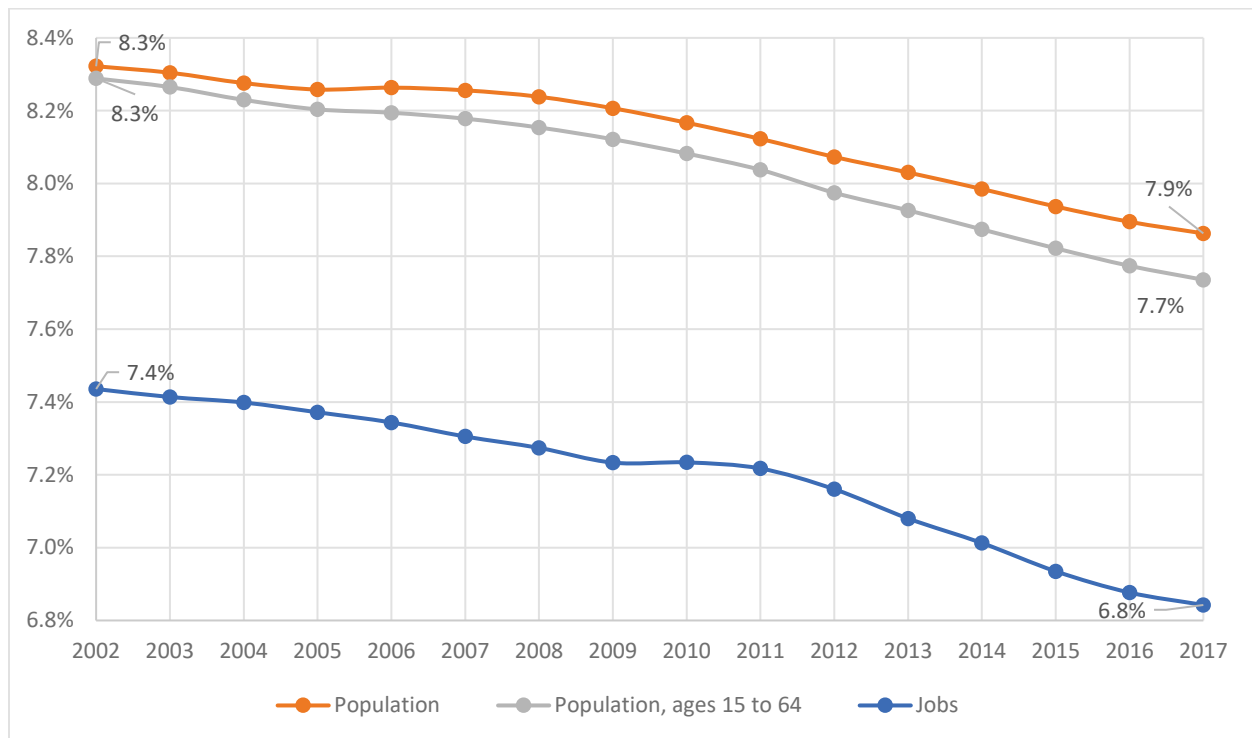
**Figure 3: Ratio of Appalachia’s share of U.S. employment to share of U.S. population, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 4 introduces an additional population variable: population ages 15 to 64, which represents the working-age population. While Appalachia's share of total U.S. population and total working-age U.S. population were nearly identical in 2002, the two have diverged over the past 15 years.

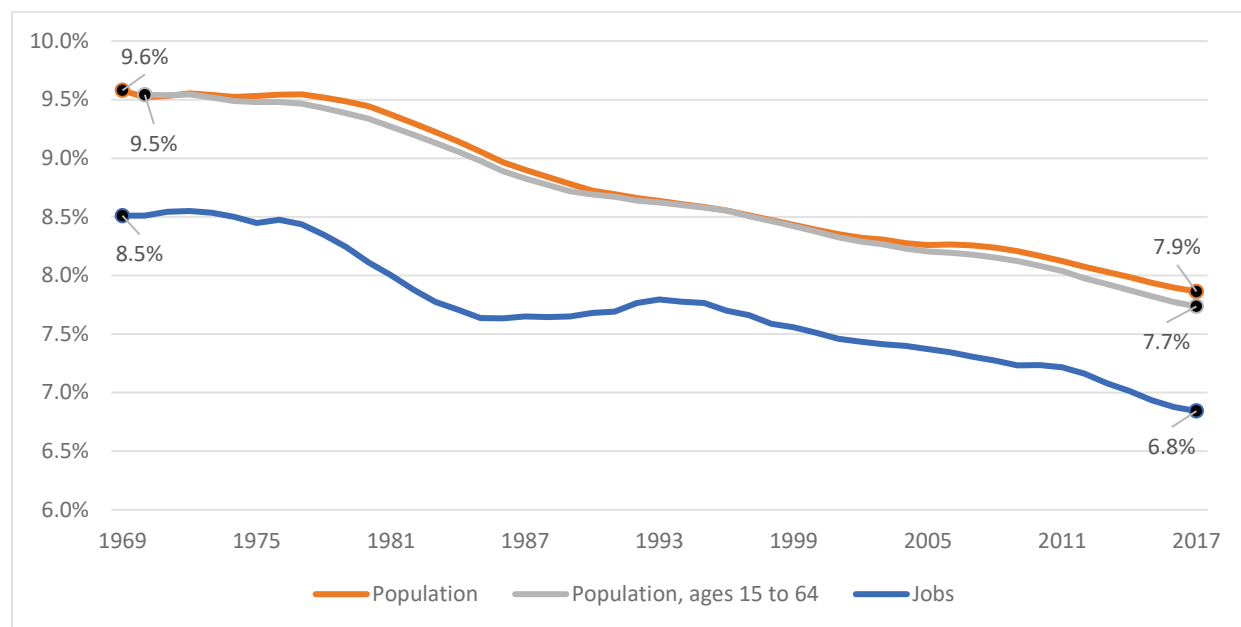
**Figure 4: Percentage of U.S. totals in Appalachia: Population, working-age population, and jobs, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 5 looks at the data again from a more historical perspective, including data back to 1969. While there was some separation between Appalachia’s share of the overall population and working-age population—particularly during the late 1970s and early 1980s—for much of the period, the two seemed to follow each other quite closely. What this indicates is that the Region has an older population, on average, than the United States as a whole. This aligns with data from the ARC report examining 2013–2017 ACS data, in which the percent of the population age 65 and over was higher in Appalachia (17.9 percent) than in the United States as a whole (15.6 percent). In addition, the median age was 41 years in Appalachia, and 38 in the United States.<sup>1</sup>

**Figure 5: Percentage of U.S. totals in Appalachia: Population, working-age population, and employment, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

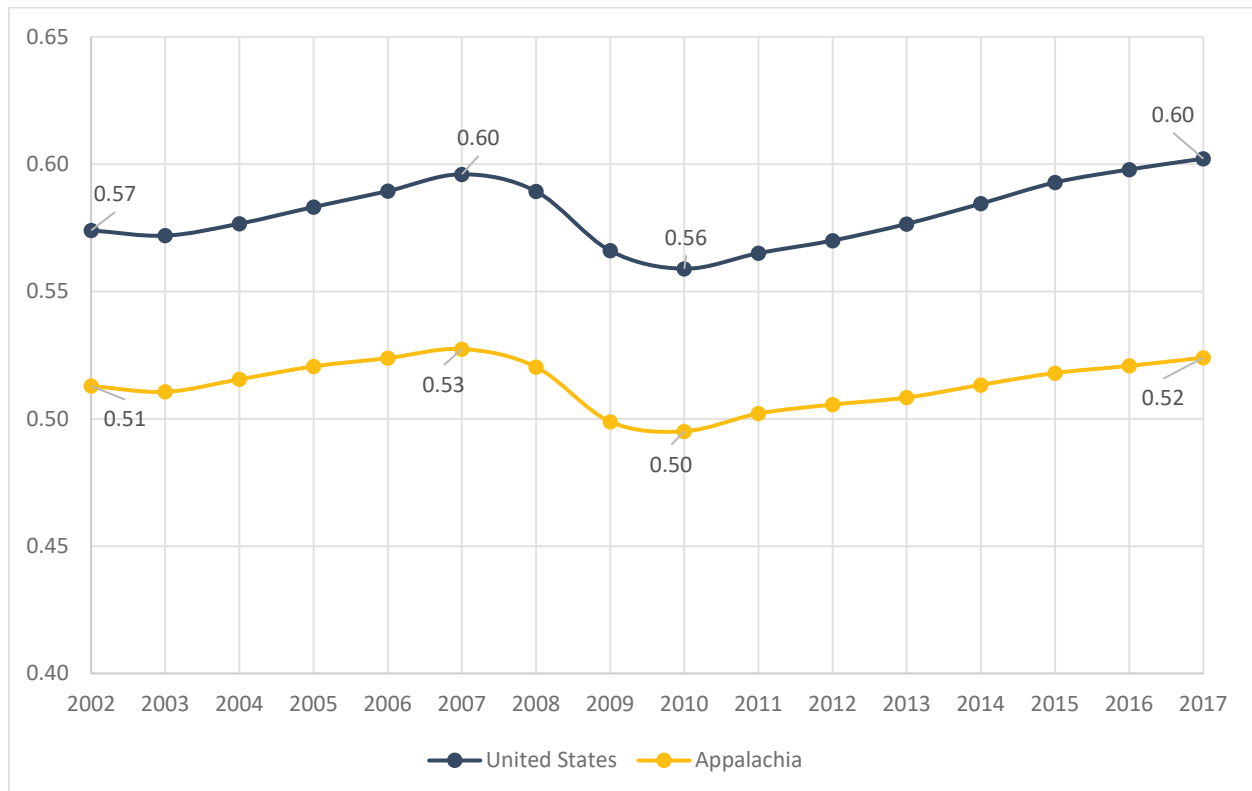
<sup>1</sup> Appalachian Regional Commission. “The Appalachian Region: A Data Overview from the 2013–2017 American Community Survey.” Table 2.1.

Another way of examining the data is with employment-to-population ratios, a measure calculated by simply dividing total employment by population:

$$\text{Employment to population ratio} = \text{Employment} / \text{population}$$

Figure 6 charts these ratios from 2002 to 2017 for both Appalachia and the United States as a whole.

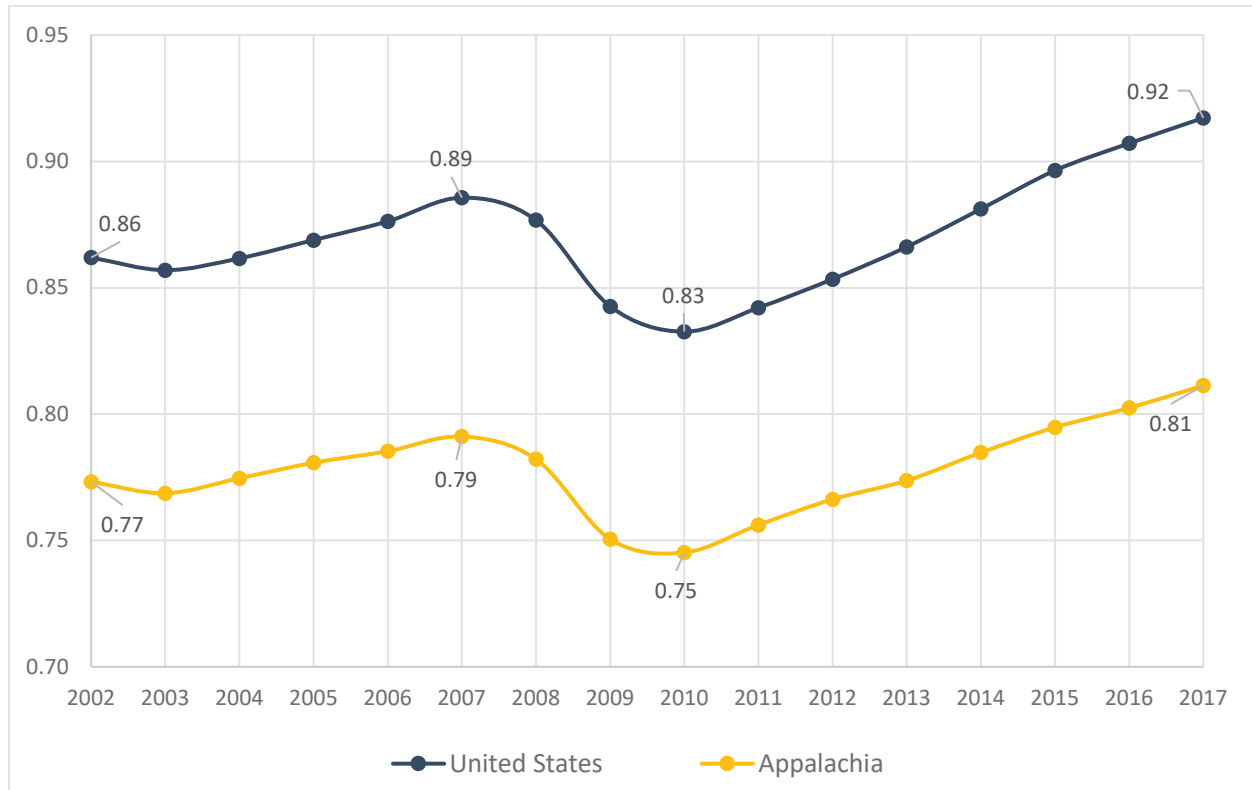
**Figure 6: Employment to population ratios, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As expected, given the discussion above related to Appalachia's share of total U.S. employment and population, the Region has a consistently lower employment-to-population ratio than the country as a whole. A similar picture appears when considering only the working-age population, as seen in Figure 7.

**Figure 7: Employment to working-age population ratios, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Employment Growth

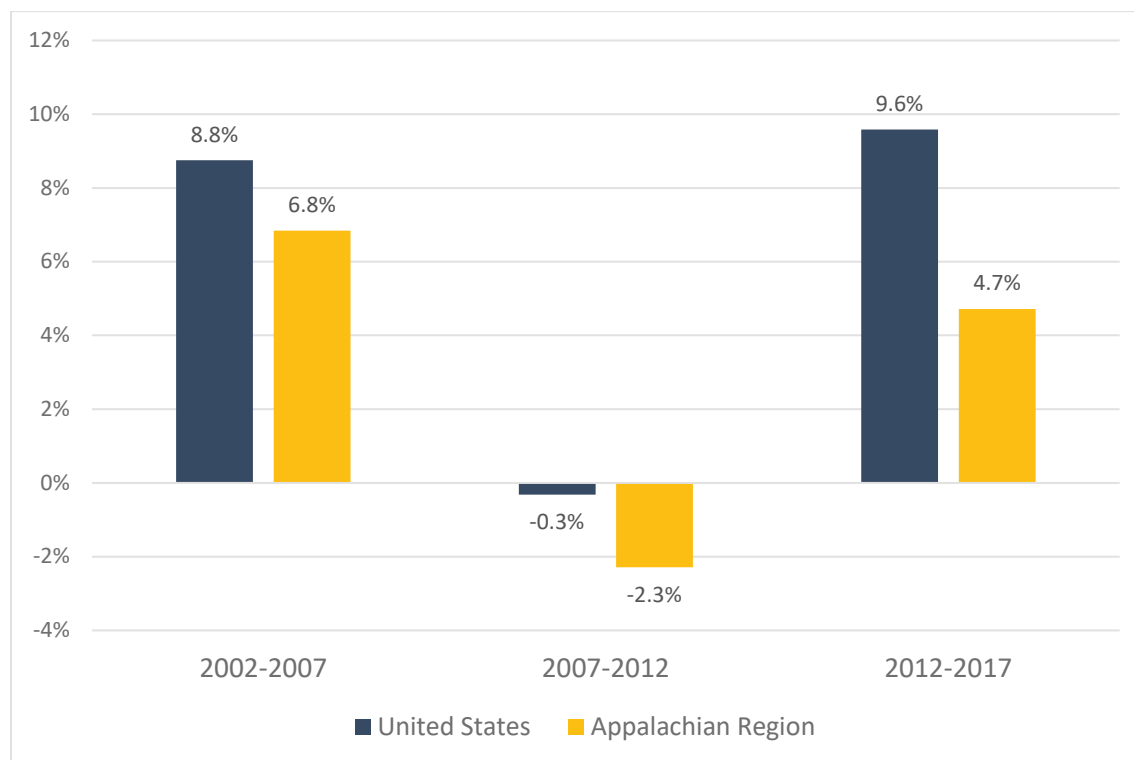
Since 2002, the Region has generally followed the national trend when it comes to periods of employment growth and decline. However, the periods of growth have not been quite as strong, and the declines have been steeper. In this section and throughout the rest of this report, we will examine changes across the following three time periods:

- 2002–2007: Preceding the Great Recession and marked by growth in total employment.
- 2007–2012: Includes the Great Recession, as well as the beginning of growth that took place following it (many economic variables bottomed out in 2010).
- 2012–2017: The most recent period, marked largely by growth.

Figure 8 shows the changes in total employment for each of these three time periods, for both Appalachia and the United States as a whole. As mentioned previously, Appalachia performed worse than the country overall during each of the three time periods:

- From 2002 to 2007, total employment growth in Appalachia was approximately two percentage points less than in the United States.
- From 2007 to 2012, employment *declined* approximately two percentage points more than it did in the nation as a whole.
- From 2012 to 2017, the Region experienced growth at only half the rate of the country overall.

**Figure 8: Percent change in employment, all industries, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 1 includes employment numbers as well as percent changes for a wide variety of geographies, including:

- Appalachian subregions
- Metro designation of counties in Appalachia
- Appalachian, non-Appalachian, and overall state values for the Region's 13 states

Several noticeable trends emerge when we consider the changes based on subregion and metro designation.

First, among the subregions, in terms of employment growth, the South Central and Southern subregions are generally the best-performing. Though both subregions experienced large declines during the 2007–2012 period, from 2012 to 2017 they saw high employment growth, at 6.6 percent and 10.4 percent, respectively. Meanwhile, the North Central and Central subregions experienced declines in total employment over the most recent time period, a span during which the United States as a whole experienced employment growth of 9.6 percent.

Second, when we consider Appalachian counties by metro designation, we see a clear, straightforward trend: Metropolitan counties performed better in terms of employment growth than nonmetro and rural areas. This statement generally holds true across time, with large metro counties in the Region experiencing the highest employment growth in each of the three time periods considered.

A third trend worth noting is the disparity in performance between the Appalachian and non-Appalachian portions of states. In 9 of the 12 states in the Region with both Appalachian and non-Appalachian portions (West Virginia is entirely within Appalachia), the Appalachian portions lagged behind the non-Appalachian portions in terms of employment growth from 2012 to 2017. In fact, in three states—Kentucky, New York, and Virginia—the Appalachian portions experienced *declines* in employment as the non-Appalachian portions enjoyed growth. The three states with better-performing Appalachian portions were Alabama, Georgia, and South Carolina.

**Table 1: Employment and percent change, all industries**

Total Employment	Employment (thousands)				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	165,095	179,544	178,980	196,132	8.8	-0.3	9.6
<b>Appalachian Region</b>	12,276	13,116	12,816	13,420	6.8	-2.3	4.7
<b>Non-Appalachian United States</b>	152,819	166,428	166,164	182,712	8.9	-0.2	10.0
<b>Subregions</b>							
Northern Appalachia	4,416	4,539	4,496	4,552	2.8	-0.9	1.2
North Central Appalachia	1,082	1,141	1,137	1,135	5.5	-0.4	-0.2
Central Appalachia	764	789	773	750	3.4	-2.1	-2.9
South Central Appalachia	2,424	2,603	2,487	2,651	7.4	-4.5	6.6
Southern Appalachia	3,590	4,043	3,923	4,333	12.6	-3.0	10.4
<b>County Types</b>							
Large metros (pop. 1 million +)	2,849	3,158	3,139	3,398	10.9	-0.6	8.3
Small metros (pop. <1 million)	5,468	5,852	5,716	5,993	7.0	-2.3	4.8
Nonmetro, adjacent to large metros	1,016	1,056	1,012	1,038	3.9	-4.2	2.6
Nonmetro, adjacent to small metros	1,778	1,850	1,772	1,814	4.1	-4.2	2.4
Rural (nonmetro, not adj. to a metro)	1,166	1,199	1,176	1,177	2.9	-1.9	0.0
<b>Alabama</b>	2,365	2,604	2,504	2,652	10.1	-3.9	5.9
Appalachian Alabama	1,525	1,671	1,609	1,707	9.6	-3.7	6.1
Non-Appalachian Alabama	840	933	895	945	11.1	-4.1	5.6
<b>Georgia</b>	4,858	5,491	5,385	6,084	13.0	-1.9	13.0
Appalachian Georgia	1,158	1,411	1,357	1,572	21.8	-3.8	15.8
Non-Appalachian Georgia	3,700	4,080	4,028	4,512	10.3	-1.3	12.0
<b>Kentucky</b>	2,263	2,415	2,389	2,521	6.7	-1.1	5.5
Appalachian Kentucky	484	498	490	485	3.0	-1.6	-1.1
Non-Appalachian Kentucky	1,780	1,917	1,899	2,036	7.7	-0.9	7.2
<b>Maryland</b>	3,157	3,441	3,439	3,697	9.0	-0.1	7.5
Appalachian Maryland	132	140	139	140	6.1	-0.6	0.8
Non-Appalachian Maryland	3,024	3,300	3,300	3,557	9.1	0.0	7.8
<b>Mississippi</b>	1,455	1,539	1,520	1,591	5.8	-1.2	4.7
Appalachian Mississippi	301	306	310	322	1.7	1.1	3.9
Non-Appalachian Mississippi	1,154	1,233	1,210	1,269	6.8	-1.8	4.9
<b>New York</b>	10,348	11,083	11,433	12,436	7.1	3.2	8.8
Appalachian New York	552	565	542	536	2.3	-4.0	-1.1
Non-Appalachian New York	9,796	10,518	10,891	11,900	7.4	3.5	9.3
<b>North Carolina</b>	4,842	5,431	5,356	5,920	12.2	-1.4	10.5
Appalachian North Carolina	857	922	871	936	7.5	-5.5	7.5
Non-Appalachian North Carolina	3,984	4,509	4,486	4,984	13.2	-0.5	11.1
<b>Ohio</b>	6,640	6,795	6,606	6,995	2.3	-2.8	5.9
Appalachian Ohio	923	930	899	918	0.8	-3.4	2.1
Non-Appalachian Ohio	5,717	5,865	5,707	6,077	2.6	-2.7	6.5
<b>Pennsylvania</b>	6,887	7,265	7,285	7,685	5.5	0.3	5.5
Appalachian Pennsylvania	3,082	3,194	3,199	3,255	3.6	0.1	1.7
Non-Appalachian Pennsylvania	3,805	4,071	4,086	4,431	7.0	0.4	8.4
<b>South Carolina</b>	2,248	2,482	2,453	2,749	10.4	-1.2	12.1
Appalachian South Carolina	606	655	648	732	8.0	-1.1	13.0
Non-Appalachian South Carolina	1,642	1,827	1,805	2,017	11.3	-1.2	11.7
<b>Tennessee</b>	3,409	3,702	3,635	4,004	8.6	-1.8	10.1
Appalachian Tennessee	1,417	1,528	1,474	1,572	7.9	-3.6	6.7
Non-Appalachian Tennessee	1,992	2,174	2,161	2,432	9.1	-0.6	12.5
<b>Virginia</b>	4,422	4,869	4,857	5,200	10.1	-0.3	7.1
Appalachian Virginia	367	379	360	357	3.3	-5.0	-0.8
Non-Appalachian Virginia	4,055	4,490	4,497	4,843	10.7	0.1	7.7
<b>West Virginia (entire state)</b>	871	916	919	889	5.1	0.4	-3.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Chapter 3: Industrial Make-up of Employment

This chapter explores employment by industry throughout Appalachia, how the Region's industrial make-up has changed over time, and how it compares to the United States as a whole. Fifteen industries are included in this report. Table 2 lists these industries, along with the corresponding two-digit North American Industry Classification System (NAICS) codes for each.

**Table 2: Industries and NAICS codes**

Industry	NAICS Codes
Farming, Forestry	11
Coal, Gas, Other Mining	21
Utilities	22
Construction	23
Manufacturing	31-33
Wholesale Trade, Transportation	42, 48, 49
Retail Trade	44, 45
Finance, Insurance, Real Estate	52, 53
Professional, Technical Services	54-56
Education, Information Services	51, 61
Health, Social Services	62
Food, Lodging, Entertainment	71, 72
Federal Government, Military	92
State and Local Government	92
Personal, Other Services	81

Table 3 shows us the industrial shares in 2017 for both the Appalachian Region and the United States as a whole. The industrial share is simply the percentage of total employment belonging to a specific industry for any given geography:

$$\text{Industrial share} = \text{Employment in industry} \div \text{Total employment}$$

The two industries with the largest shares were the same for both the Region and the country as a whole: Professional and Technical Services (12.1 percent share in Appalachia, 14.5 percent in the U.S.) and Health and Social Services (11.6 percent in Appalachia, 11.3 percent in the U.S.).

If we consider only the Appalachian Region, in 2017, the industries typically associated with the Region did not make up as large a share as many might expect. Manufacturing (1.34 million jobs, 10 percent), Farming and Forestry (325,000 jobs, 2.4 percent), and Coal, Gas, and Other Mining (140,000 jobs, 1 percent) combined to make up just 13.4 percent of total employment in the Region. These same industries at the national level constituted 9.4 percent of total employment.

Meanwhile, the industries associated with the “service economy” made up a smaller percentage of Appalachia's total employment than they did in the United States overall. Professional and Technical Services (1.62 million jobs, 12.1 percent); Health and Social Services (1.56 million jobs, 11.6 percent); Finance, Insurance, and Real Estate (1.04 million jobs, 7.8 percent); and Education and Information Services (432,000 jobs, 3.2 percent) combined to make up 34.7 percent of total employment. These same four industries made up 39.9 percent of the nation's total employment.

**Table 3: Industrial shares, Appalachia and the United States, 2017**

Employment (thousands) and Industrial Shares, 2017	Appalachian Region		United States	
	Employment	Ind. Share (%)	Employment	Ind. Share (%)
Professional, Technical Services	1,619	12.1	28,479	14.5
Health, Social Services	1,562	11.6	22,199	11.3
Retail Trade	1,493	11.1	19,222	9.8
State and Local Government	1,488	11.1	19,619	10.0
Manufacturing	1,342	10.0	13,307	6.8
Food, Lodging, Entertainment	1,240	9.2	19,155	9.8
Finance, Insurance, Real Estate	1,040	7.8	19,616	10.0
Wholesale Trade, Transportation	874	6.5	14,148	7.2
Personal, Other Services	793	5.9	11,170	5.7
Construction	775	5.8	10,636	5.4
Education, Information Services	432	3.2	8,075	4.1
Farming, Forestry	325	2.4	3,552	1.8
Federal Government, Military	241	1.8	4,786	2.4
Coal, Gas, Other Mining	140	1.0	1,505	0.8
Utilities	57	0.4	664	0.3
<i>Total Employment</i>	<i>13,420</i>	<i>100</i>	<i>196,132</i>	<i>100</i>

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 4 shows how Appalachia's industrial shares have changed over time. For the majority of industries, shares of total employment remained steady between 2002 and 2017. However, a trend does appear if we consider the four service sector industries noted previously; in 2017, these industries made up 34.7 percent of the Region's total employment, whereas just 15 years prior, in 2002, they constituted 29.2 percent.

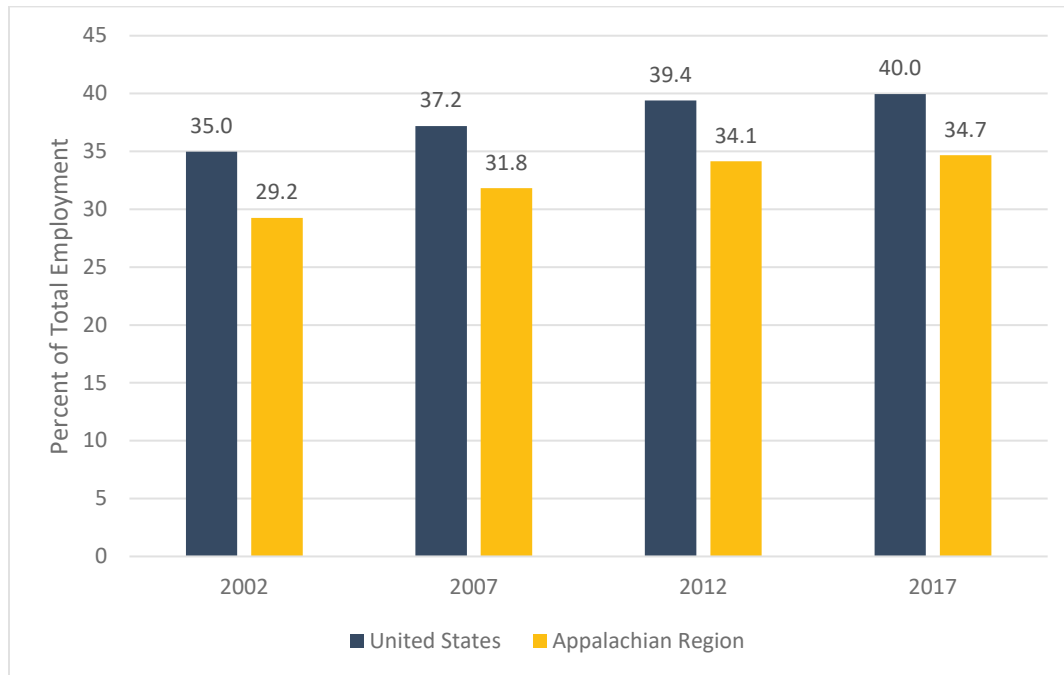
**Table 4: Industrial shares (%) in Appalachia, 2002, 2007, 2012, and 2017**

	2002	2007	2012	2017
Professional, Technical Services	9.9	11.1	11.8	12.1
Health, Social Services	9.9	10.6	11.6	11.6
Retail Trade	12.3	11.8	11.4	11.1
State and Local Government	11.7	11.5	11.7	11.1
Manufacturing	13.8	11.5	9.9	10.0
Food, Lodging, Entertainment	7.9	8.3	8.7	9.2
Finance, Insurance, Real Estate	6.1	6.9	7.5	7.8
Wholesale Trade, Transportation	6.5	6.6	6.4	6.5
Personal, Other Services	6.0	5.8	6.0	5.9
Construction	6.3	6.8	5.6	5.8
Education, Information Services	3.3	3.2	3.3	3.2
Farming, Forestry	2.9	2.6	2.5	2.4
Federal Government, Military	2.1	1.9	2.0	1.8
Coal, Gas, Other Mining	0.8	0.9	1.3	1.0
Utilities	0.5	0.4	0.4	0.4

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As we can see in Figure 9, in 2002 the four industries associated with a service economy made up 35 percent of total employment in the United States as a whole, compared to 29.2 percent for Appalachia. Over the years, however, the gap between the Region and the country overall has shrunk in terms of the share of total employment involved with the service economy.

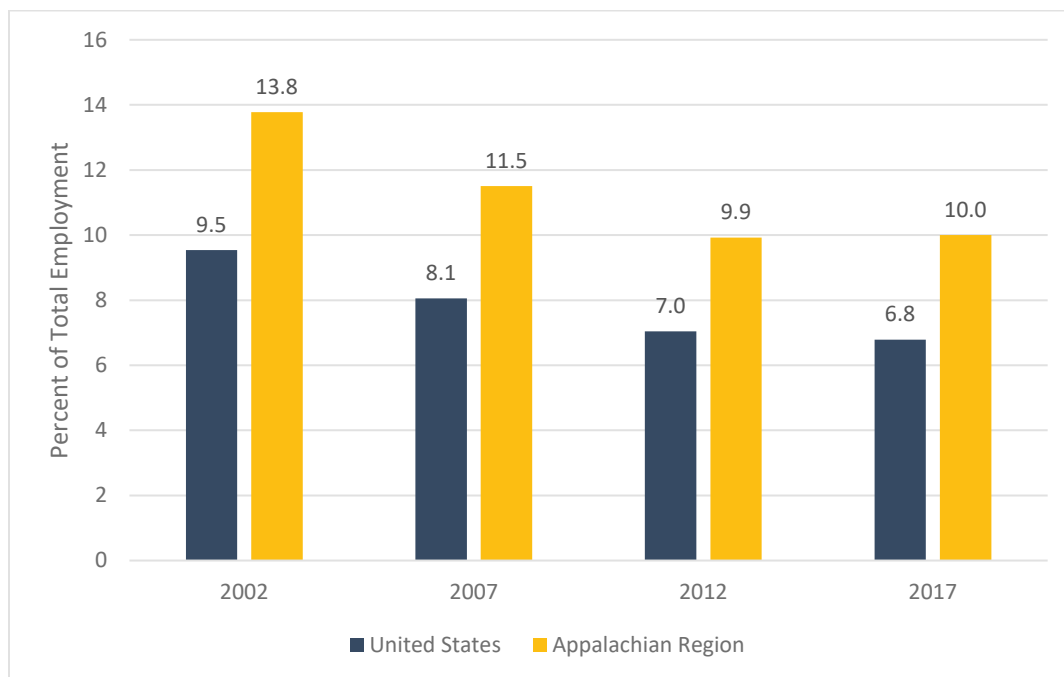
**Figure 9: Industrial shares in the service economy, 2002, 2007, 2012, and 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Considering again the data in Table 4, another trend worth noting is the decline of manufacturing employment from 2002 to 2012, when it dropped from 13.8 percent of total Appalachian employment to 9.9 percent. However, the share of employment in the industry rose slightly between 2012 and 2017, to an even 10 percent in the most recent year of data. As seen in Figure 10, the regional and national trends in manufacturing appear to be the same. In terms of the sheer number of jobs lost in the industry, from 2002 to 2017, the United States lost 2.4 million jobs in the manufacturing sector, a decrease of 15 percent. Appalachia over the same period of time experienced a more pronounced drop in the industry, losing nearly 350,000 manufacturing jobs—a decline of 21 percent.

**Figure 10: Industrial shares in Manufacturing, 2002, 2007, 2012, and 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Another way of looking at the industrial make-up of the Region involves comparing the “ranks” of each industry. These ranks represent the ordering of the 15 industries for a given year, in terms of their share of total employment. The chief advantage of considering the industrial make-up of the Region in this manner is its simplicity; it allows us to more easily spot trends in how employment in the industries—relative to the others—has changed over the years. Table 5 displays these ranks for the Appalachian Region in 2002, 2007, 2012, and 2017.

**Table 5: Ranking of industrial shares in Appalachia, 2002, 2007, 2012, and 2017**

	2002	2007	2012	2017
Professional, Technical Services	5	4	1	1
Health, Social Services	4	5	3	2
Retail Trade	2	1	4	3
State and Local Government	3	2	2	4
Manufacturing	1	3	5	5
Food, Lodging, Entertainment	6	6	6	6
Finance, Insurance, Real Estate	9	7	7	7
Wholesale Trade, Transportation	7	9	8	8
Personal, Other Services	10	10	9	9
Construction	8	8	10	10
Education, Information Services	11	11	11	11
Farming, Forestry	12	12	12	12
Federal Government, Military	13	13	13	13
Coal, Gas, Other Mining	14	14	14	14
Utilities	15	15	15	15

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As we would expect, manufacturing's rank fell sharply at the same time the service economy industries saw relative gains. For the majority of industries, however, their ranks remained stable over the years.

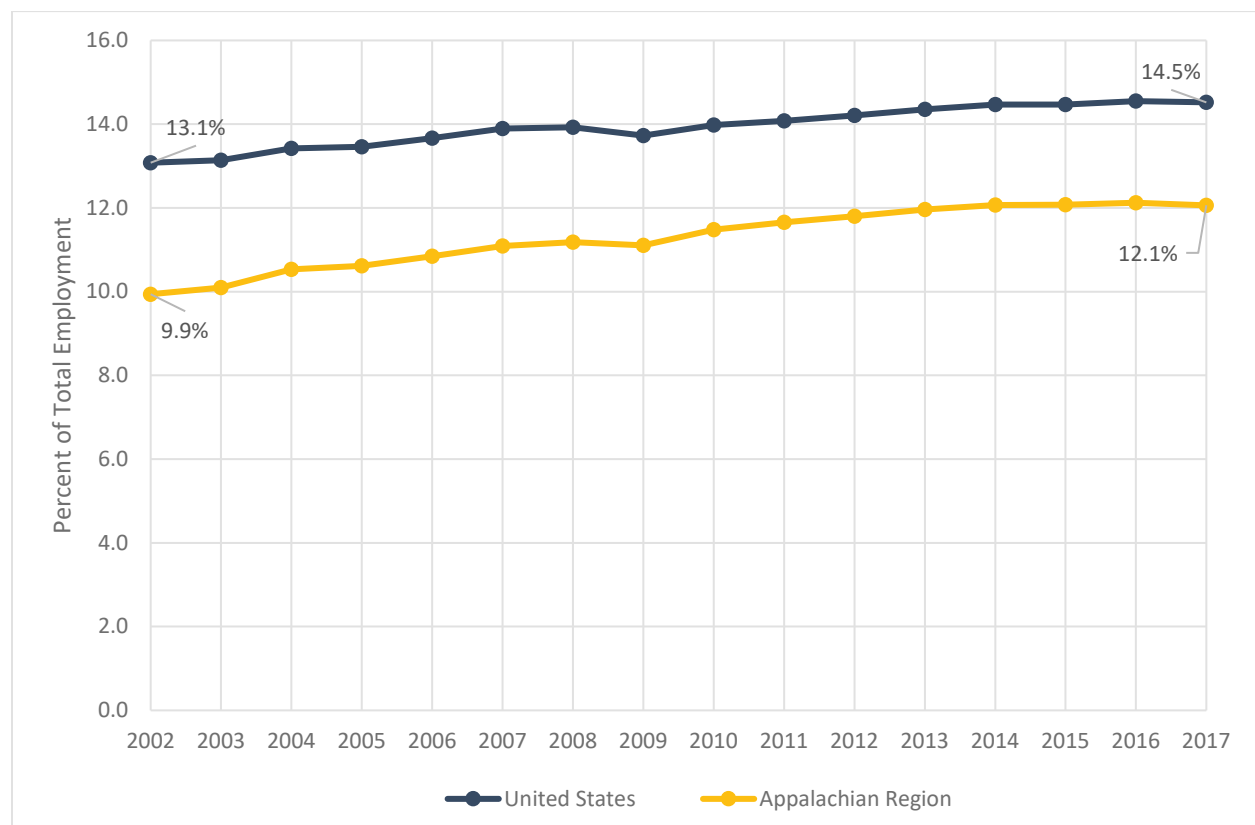
The sections that follow will explore each of the 15 industrial categories in greater detail. Descriptions of each industry will be followed by analysis of employment trends in the Region, with consideration given to both time and geography. The ordering of industries is based on industrial shares for the Appalachian Region in 2017, starting with the largest.

### Professional and Technical Services

This industrial category includes any sort of establishment that provides highly specialized professional activities such as accounting, computer services, consulting, and legal advice. Also included are a wide range of administrative activities, such as clerical services and call centers, and even janitorial and landscaping services.

As seen in Figure 11, the Region's industrial share in this industry has been consistently smaller than that of the United States as a whole. However, the gap appears to have decreased some since 2002, when the industrial share for the Region was 9.9 percent, compared with 13.1 percent at the national level. In 2017, this was up to 12.1 percent for the Region, compared with 14.5 percent for the United States overall.

**Figure 11: Industrial share, Professional and Technical Services, 2002–2017**

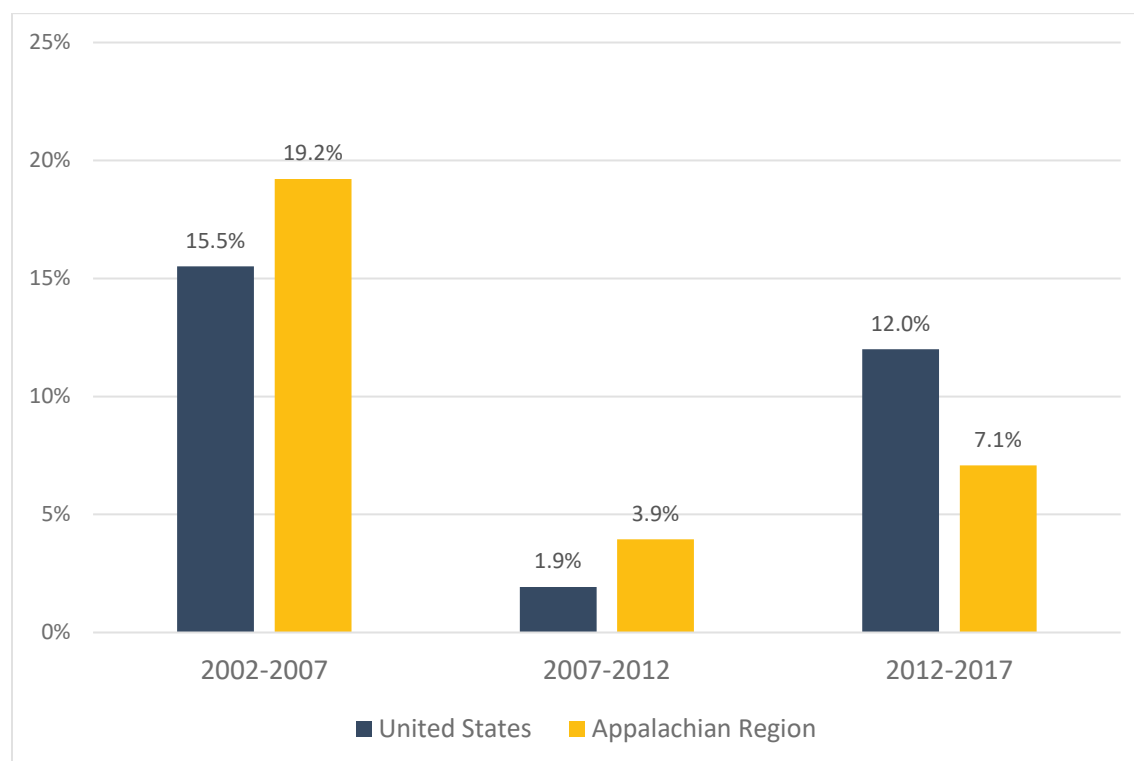


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



In terms of growth, in Figure 12 we see that during both the 2002–2007 and 2007–2012 periods, employment in the industry grew at a faster pace in Appalachia than in the United States overall. However, during the most recent five-year period, from 2012 to 2017, growth in the industry’s employment was smaller in the Region (7.1 percent) than in the country as a whole (12 percent).

**Figure 12: Percent change in employment, Professional and Technical Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Table 6, the most noticeable variation within the Region, as is the case with so many industries, correlates with the metro designations of the counties. In Appalachia’s large metro areas, the Professional and Technical Services share was 15.5 percent of total employment in 2017, much higher than the figures in nonmetro and rural areas, which ranged from 7.8 to 9 percent across the three designations.

Across the Region’s 13 states, the non-Appalachian portions tended to have higher industrial shares in this category, with Alabama and South Carolina being the two exceptions. Appalachian Georgia (14.7 percent) had the largest share among the Appalachian portions of states, which helped make Southern Appalachia (14.1 percent) the highest among the five subregions. Virginia had the highest share for a state overall (18.7 percent), though the difference between the Appalachian (9.7 percent) and non-Appalachian portions (18.8 percent) was large.

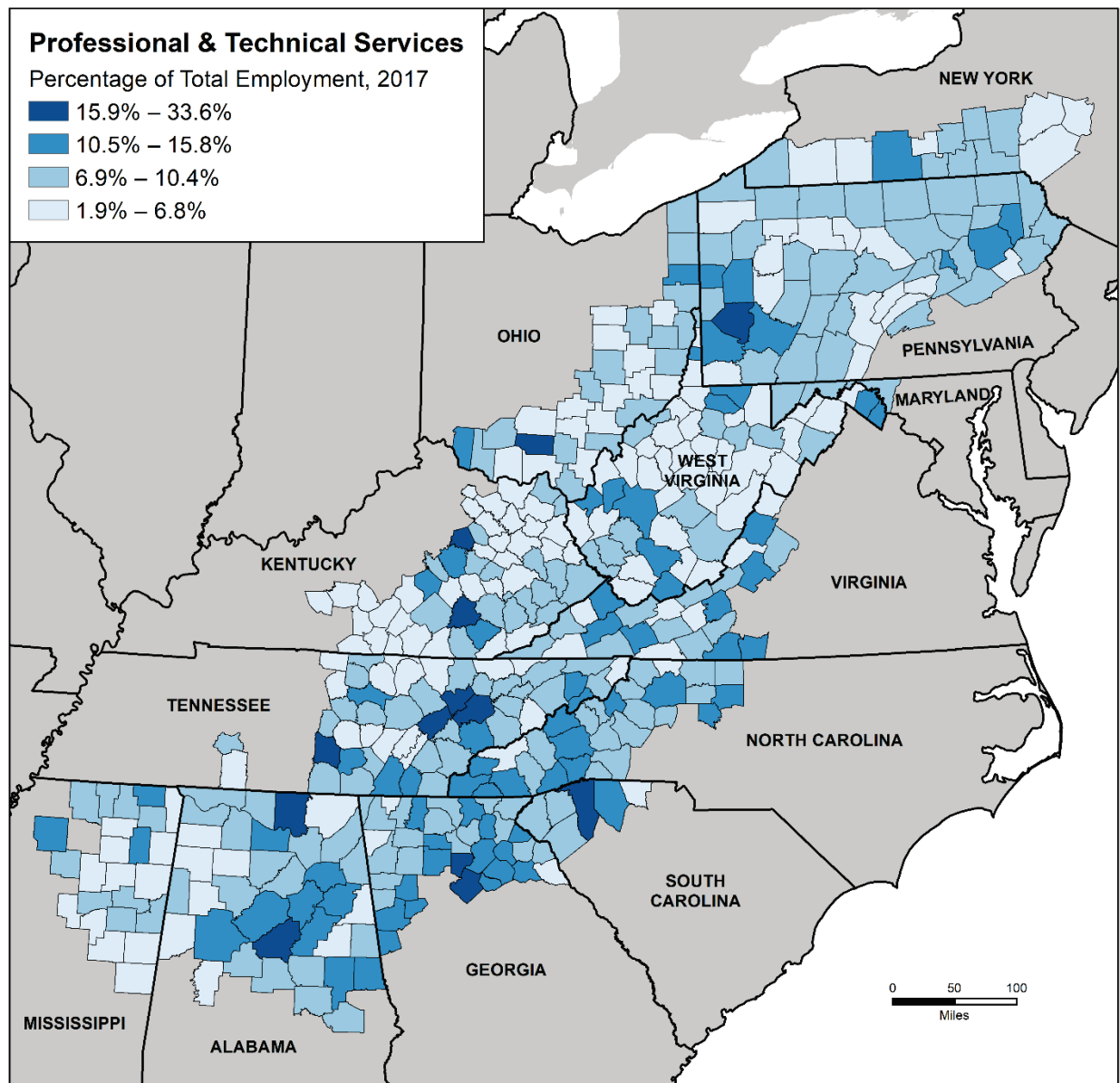
Figure 13 then displays the county-level industrial shares throughout the Region.

**Table 6: Employment and ind. shares, Professional and Technical Services, 2002, 2007, 2012, and 2017**

Professional, Technical Services	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	21,594	24,944	25,425	28,479	13.1	13.9	14.2	14.5
<b>Appalachian Region</b>	1,220	1,455	1,512	1,619	9.9	11.1	11.8	12.1
<b>Non-Appalachian U.S.</b>	20,374	23,489	23,913	26,860	13.3	14.1	14.4	14.7
<b>Subregions</b>								
Northern Appalachia	420	474	491	505	9.5	10.4	10.9	11.1
North Central Appalachia	91	101	105	110	8.4	8.9	9.2	9.7
Central Appalachia	55	64	69	68	7.2	8.1	8.9	9.1
South Central Appalachia	242	283	295	323	10.0	10.9	11.8	12.2
Southern Appalachia	412	533	552	613	11.5	13.2	14.1	14.1
<b>County Types</b>								
Large Metros (pop. 1 million +)	383	463	479	528	13.5	14.7	15.3	15.5
Small Metros (pop. <1 million)	572	684	703	755	10.5	11.7	12.3	12.6
Nonmetro, Adjacent to Large Metros	74	85	89	93	7.3	8.0	8.8	9.0
Nonmetro, Adjacent to Small Metros	115	134	141	142	6.5	7.2	8.0	7.8
Rural (nonmetro, not adj. to a metro)	75	89	98	100	6.4	7.4	8.4	8.5
<b>Alabama</b>	254	314	321	347	10.8	12.1	12.8	13.1
Appalachian Alabama	173	214	219	236	11.4	12.8	13.6	13.8
Non-Appalachian Alabama	81	100	103	111	9.6	10.7	11.5	11.7
<b>Georgia</b>	668	808	837	970	13.8	14.7	15.5	15.9
Appalachian Georgia	145	198	202	232	12.5	14.1	14.9	14.7
Non-Appalachian Georgia	523	610	635	738	14.1	14.9	15.8	16.4
<b>Kentucky</b>	212	257	266	289	9.4	10.6	11.1	11.5
Appalachian Kentucky	33	39	42	42	6.8	7.8	8.6	8.7
Non-Appalachian Kentucky	180	218	224	246	10.1	11.4	11.8	12.1
<b>Maryland</b>	487	563	577	625	15.4	16.4	16.8	16.9
Appalachian Maryland	10	12	12	13	7.4	8.4	8.9	9.1
Non-Appalachian Maryland	477	551	565	613	15.8	16.7	17.1	17.2
<b>Mississippi</b>	116	144	155	170	8.0	9.4	10.2	10.7
Appalachian Mississippi	21	25	29	30	6.9	8.0	9.5	9.5
Non-Appalachian Mississippi	96	120	125	139	8.3	9.7	10.4	11.0
<b>New York</b>	1,396	1,552	1,622	1,808	13.5	14.0	14.2	14.5
Appalachian New York	47	49	48	47	8.5	8.8	8.8	8.7
Non-Appalachian New York	1,349	1,503	1,574	1,761	13.8	14.3	14.5	14.8
<b>North Carolina</b>	573	709	755	857	11.8	13.1	14.1	14.5
Appalachian North Carolina	85	101	104	112	9.9	11.0	12.0	11.9
Non-Appalachian North Carolina	489	608	651	746	12.3	13.5	14.5	15.0
<b>Ohio</b>	814	896	903	959	12.3	13.2	13.7	13.7
Appalachian Ohio	71	76	81	81	7.7	8.2	9.0	8.8
Non-Appalachian Ohio	743	819	823	878	13.0	14.0	14.4	14.5
<b>Pennsylvania</b>	819	949	979	1,064	11.9	13.1	13.4	13.8
Appalachian Pennsylvania	310	357	372	389	10.1	11.2	11.6	11.9
Non-Appalachian Pennsylvania	509	592	608	675	13.4	14.5	14.9	15.2
<b>South Carolina</b>	248	312	333	386	11.0	12.6	13.6	14.0
Appalachian South Carolina	73	96	102	115	12.0	14.7	15.8	15.7
Non-Appalachian South Carolina	175	215	231	272	10.7	11.8	12.8	13.5
<b>Tennessee</b>	410	462	488	570	12.0	12.5	13.4	14.2
Appalachian Tennessee	150	170	180	200	10.6	11.1	12.2	12.7
Non-Appalachian Tennessee	261	293	308	370	13.1	13.5	14.3	15.2
<b>Virginia</b>	696	840	875	943	15.7	17.3	18.0	18.1
Appalachian Virginia	26	33	33	35	7.2	8.7	9.2	9.7
Non-Appalachian Virginia	669	807	842	909	16.5	18.0	18.7	18.8
<b>West Virginia (entire state)</b>	77	85	88	89	8.8	9.3	9.6	10.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 13: Percentage of total employment in the Appalachian Region, Professional and Technical Services, 2017**



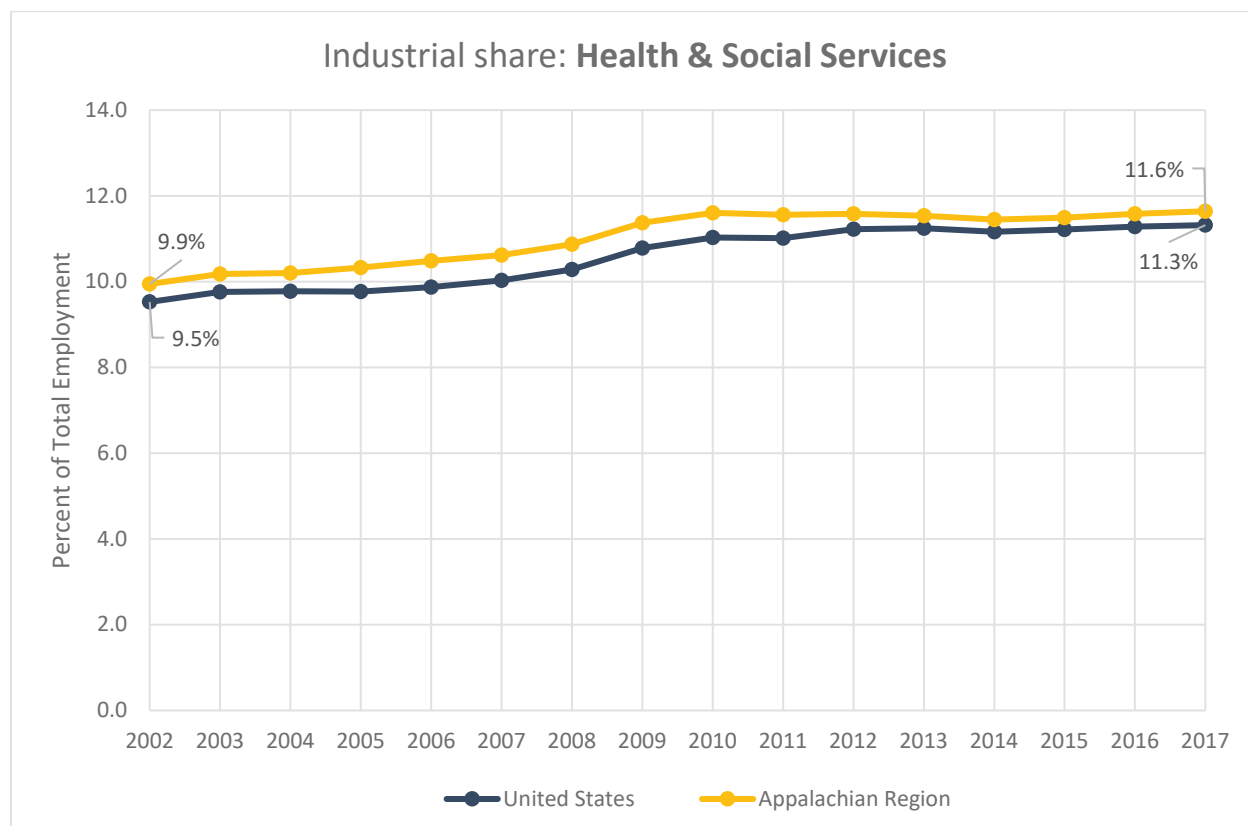
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Health and Social Services

This category includes all establishments that provide health care or social assistance of any sort. Medical offices, hospitals, and nursing and residential facilities are part of this category, as too are social assistance centers, such as food banks and homeless shelters. One important note is that *public* hospitals and medical offices are excluded from this category.

As seen in Figure 14, this sector's industrial shares have increased over recent years for both Appalachia and the United States as a whole, with the Region having a slightly larger share of its overall employment engaged in the Health and Social Services sector than the country overall. In 2002, 9.9 percent of Appalachia's employment was in the Health and Social Services industry; by 2017, this had increased to 11.6 percent. Over the same time period, the industrial share for the United States as a whole grew from 9.5 percent to 11.3 percent.

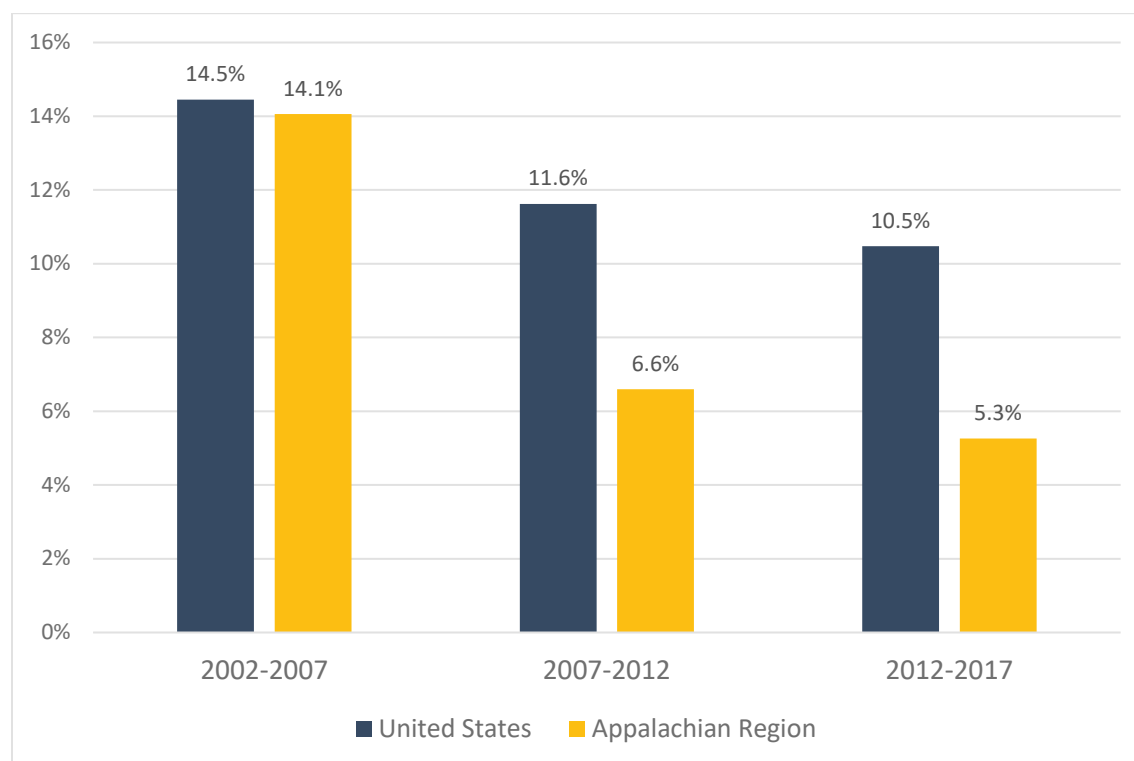
**Figure 14: Industrial share, Health and Social Services, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 15 we see that in each of the three time periods considered, employment growth in Health and Social Services was larger in the United States than in the Region. The largest relative gap was during the 2012–2017 period, when growth in the country as a whole (10.5 percent) was much higher than in Appalachia (5.3 percent).

**Figure 15: Percent change in employment, Health and Social Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 7 shows variation in the category’s employment and industrial shares throughout the Region. The most notable variation is at the subregion level, where industrial shares decline as we move from Northern Appalachia (14.1 percent) to Southern Appalachia (8.7 percent). There is little difference based on metro designation.

This north-south trend is also seen at the state level, with the Appalachian portions of South Carolina (7.9 percent), Georgia (8.3 percent), and Alabama (9.2 percent) having the lowest Health and Social Services shares in the Region—and values that are lower than the non-Appalachian portions of the respective states, as well. Appalachian Maryland (14.4 percent), Appalachian Pennsylvania (14.2 percent), and West Virginia (14.1 percent) had the largest shares.

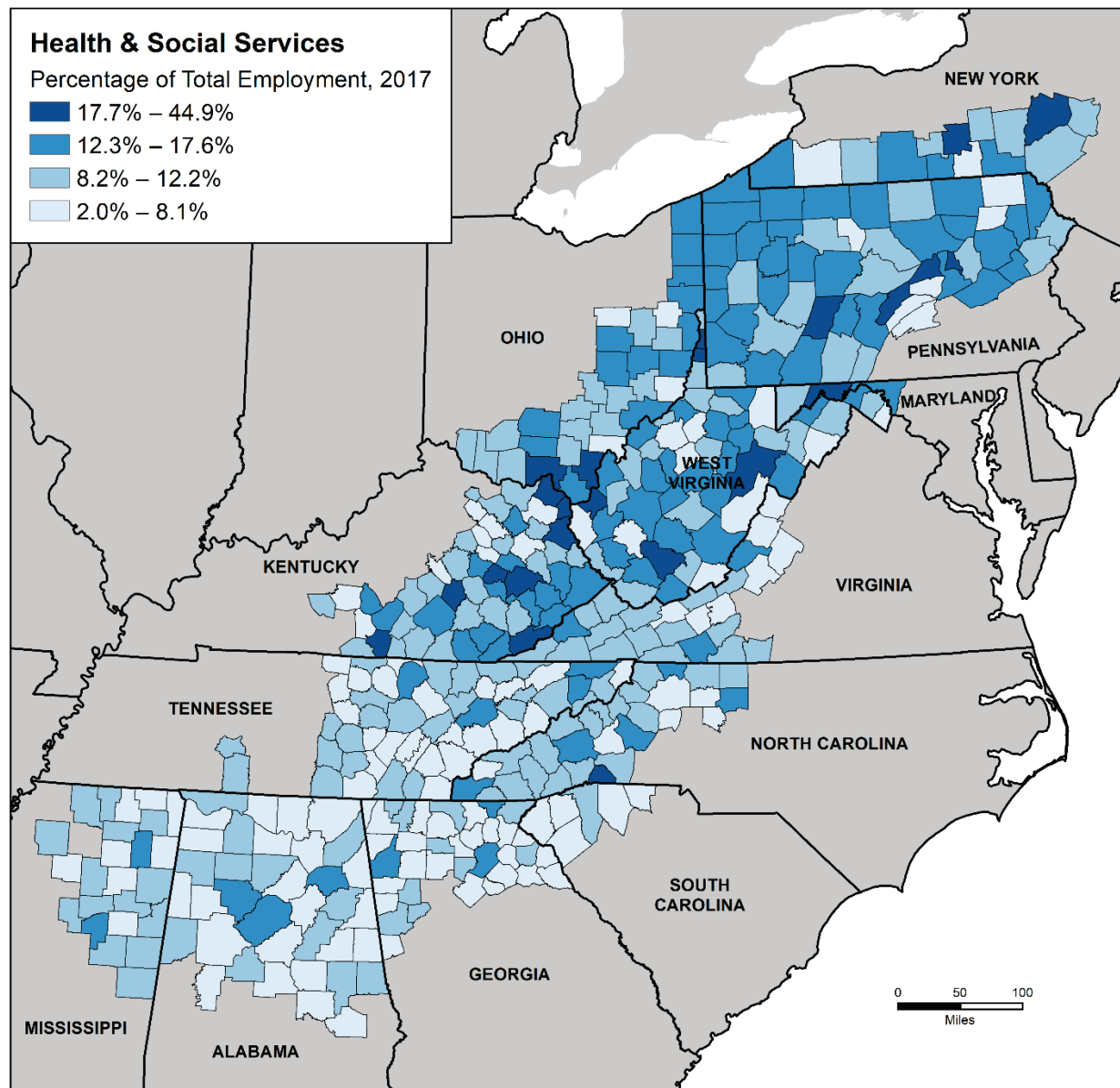
Figure 16 then displays the county-level industrial shares throughout the Region.

**Table 7: Employment and industrial shares, Health and Social Services, 2002, 2007, 2012, and 2017**

Health, Social Services	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	15,729	18,002	20,093	22,199	9.5	10.0	11.2	11.3
<b>Appalachian Region</b>	1,221	1,392	1,484	1,562	9.9	10.6	11.6	11.6
<b>Non-Appalachian U.S.</b>	14,508	16,609	18,609	20,637	9.5	10.0	11.2	11.3
<b>Subregions</b>								
Northern Appalachia	546	600	627	641	12.4	13.2	14.0	14.1
North Central Appalachia	126	138	151	155	11.6	12.1	13.2	13.7
Central Appalachia	77	85	89	89	10.0	10.8	11.5	11.8
South Central Appalachia	220	266	281	299	9.1	10.2	11.3	11.3
Southern Appalachia	252	304	336	378	7.0	7.5	8.6	8.7
<b>County Types</b>								
Large Metros (pop. 1 million +)	289	333	356	386	10.1	10.5	11.3	11.4
Small Metros (pop. <1 million)	558	643	691	734	10.2	11.0	12.1	12.2
Nonmetro, Adjacent to Large Metros	96	109	113	113	9.4	10.4	11.2	10.9
Nonmetro, Adjacent to Small Metros	163	182	190	192	9.2	9.8	10.7	10.6
Rural (nonmetro, not adj. to a metro)	115	126	134	137	9.9	10.5	11.4	11.7
<b>Alabama</b>	187	218	232	249	7.9	8.4	9.3	9.4
Appalachian Alabama	120	139	147	158	7.9	8.3	9.2	9.2
Non-Appalachian Alabama	67	79	85	92	8.0	8.5	9.5	9.7
<b>Georgia</b>	366	447	502	563	7.5	8.1	9.3	9.3
Appalachian Georgia	72	95	110	130	6.2	6.7	8.1	8.3
Non-Appalachian Georgia	294	352	392	433	8.0	8.6	9.7	9.6
<b>Kentucky</b>	213	235	257	269	9.4	9.7	10.8	10.7
Appalachian Kentucky	52	57	61	62	10.8	11.4	12.4	12.7
Non-Appalachian Kentucky	161	178	196	207	9.1	9.3	10.3	10.2
<b>Maryland</b>	329	371	413	442	10.4	10.8	12.0	11.9
Appalachian Maryland	17	18	20	20	13.0	13.1	14.3	14.4
Non-Appalachian Maryland	312	353	393	422	10.3	10.7	11.9	11.9
<b>Mississippi</b>	114	133	149	158	7.8	8.6	9.8	10.0
Appalachian Mississippi	23	27	30	32	7.7	8.9	9.7	10.0
Non-Appalachian Mississippi	90	106	120	126	7.8	8.6	9.9	9.9
<b>New York</b>	1,317	1,462	1,569	1,727	12.7	13.2	13.7	13.9
Appalachian New York	68	71	73	73	12.3	12.5	13.4	13.6
Non-Appalachian New York	1,249	1,391	1,496	1,654	12.8	13.2	13.7	13.9
<b>North Carolina</b>	401	508	527	571	8.3	9.4	9.8	9.6
Appalachian North Carolina	90	108	110	123	10.4	11.8	12.7	13.1
Non-Appalachian North Carolina	312	400	416	448	7.8	8.9	9.3	9.0
<b>Ohio</b>	706	788	853	899	10.6	11.6	12.9	12.9
Appalachian Ohio	105	115	119	121	11.4	12.4	13.3	13.2
Non-Appalachian Ohio	601	673	734	778	10.5	11.5	12.9	12.8
<b>Pennsylvania</b>	838	949	1,022	1,103	12.2	13.1	14.0	14.3
Appalachian Pennsylvania	380	427	449	463	12.3	13.4	14.0	14.2
Non-Appalachian Pennsylvania	458	522	572	640	12.0	12.8	14.0	14.4
<b>South Carolina</b>	156	183	206	233	6.9	7.4	8.4	8.5
Appalachian South Carolina	37	42	49	58	6.1	6.5	7.5	7.9
Non-Appalachian South Carolina	119	141	157	176	7.2	7.7	8.7	8.7
<b>Tennessee</b>	292	356	396	425	8.6	9.6	10.9	10.6
Appalachian Tennessee	119	146	158	163	8.4	9.5	10.7	10.4
Non-Appalachian Tennessee	173	211	238	262	8.7	9.7	11.0	10.8
<b>Virginia</b>	343	398	451	498	7.7	8.2	9.3	9.6
Appalachian Virginia	30	33	34	35	8.1	8.8	9.6	9.7
Non-Appalachian Virginia	313	365	417	463	7.7	8.1	9.3	9.6
<b>West Virginia (entire state)</b>	107	113	124	125	12.3	12.3	13.4	14.1

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 16: Percentage of total employment in the Appalachian Region, Health and Social Services, 2017**



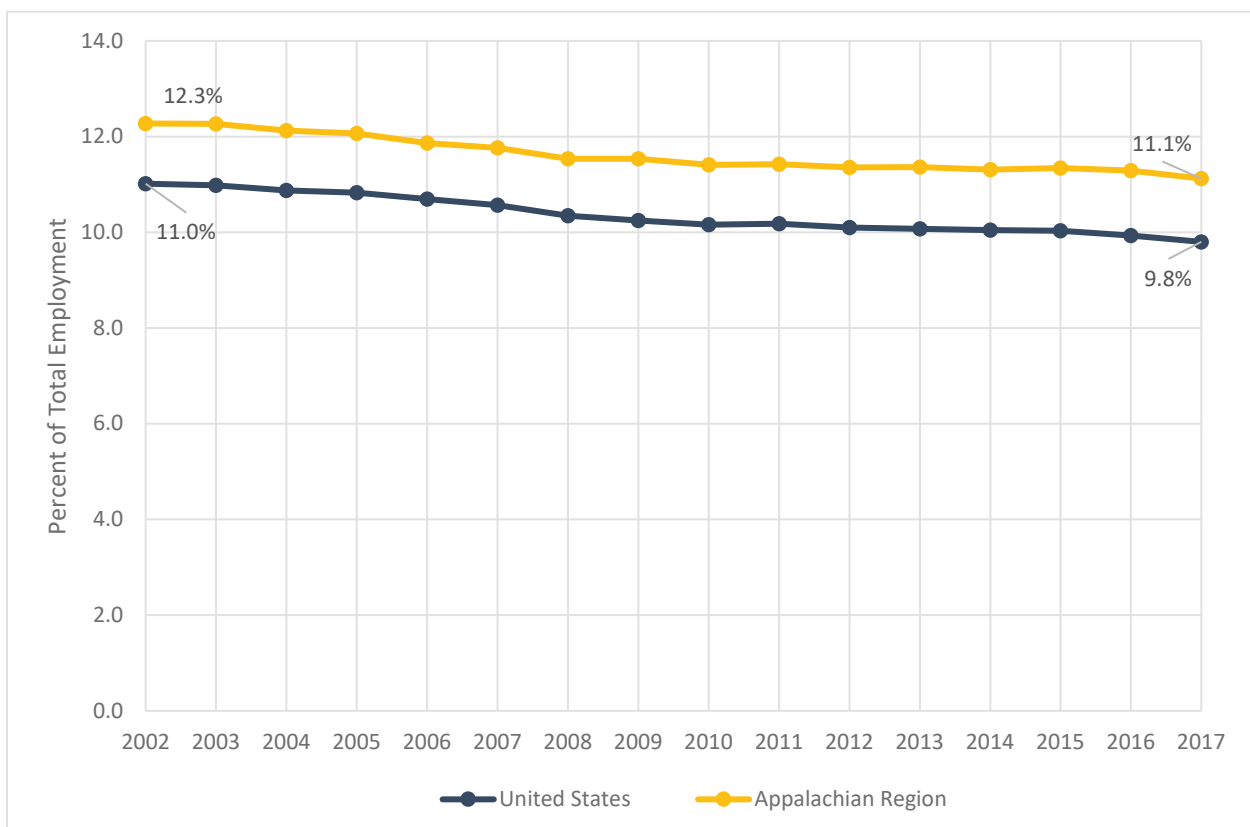
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Retail Trade

This category includes all establishments that sell merchandise of any sort and those that offer services related to the sale of the merchandise. Car dealerships, convenience stores, supermarkets (not restaurants and bars), department stores, and healthcare stores (e.g., pharmacies) are included, and so too are Internet retailers without a physical storefront.

Figure 17 shows a slight decline in the category's industrial share since 2002 for both Appalachia and the United States as a whole. The Region, which consistently had a larger share of its employment engaged in the sector, saw Retail Trade's industrial share decline from 12.3 percent in 2002 to 11.1 percent in 2017. The United States experienced a decrease of a similar magnitude, dropping from 11 percent in 2002 to 9.8 percent in 2017.

**Figure 17: Industrial share, Retail Trade, 2002–2017**

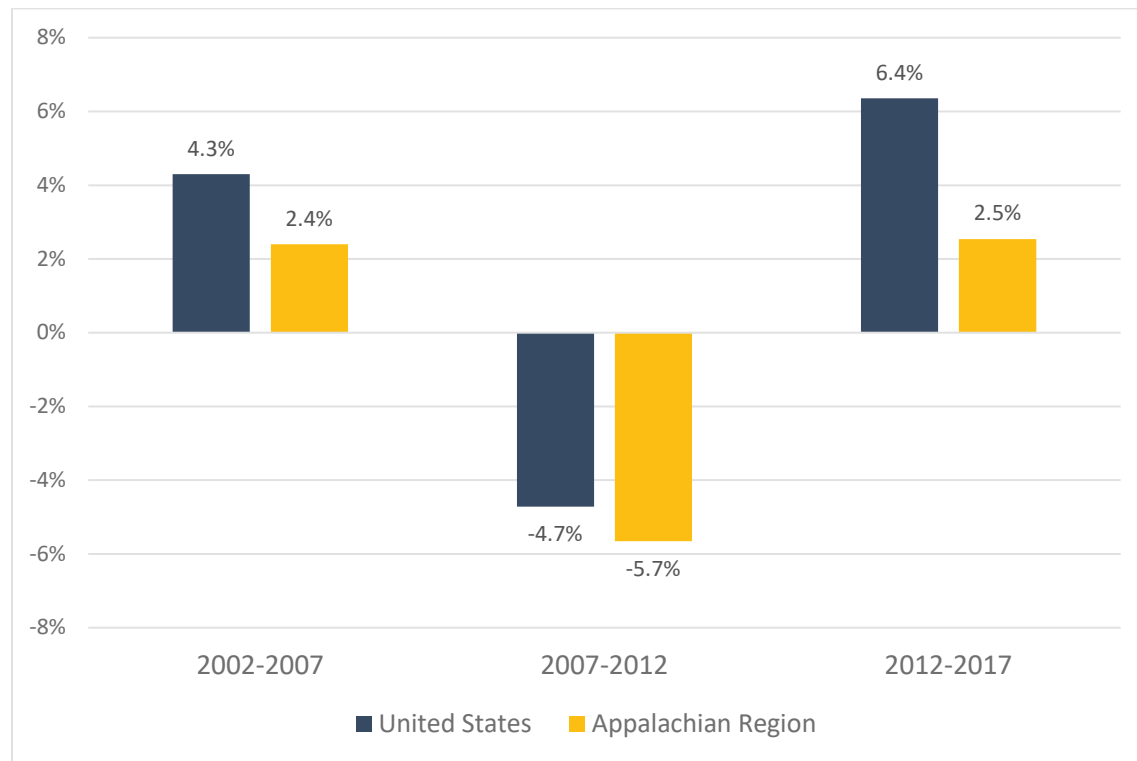


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



Figure 18 shows growth in employment for both the United States as a whole and Appalachia across the three recent time periods. In both the 2002–2007 and 2012–2017 periods, national growth was faster than the Region’s growth; in 2007–2012, Appalachia’s decline was steeper than that of the country as a whole.

**Figure 18: Percent change in employment, Retail Trade, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Table 8, there is little variation at the subregion level throughout Appalachia. However, there does seem to be a trend based on metro designation, with Retail Trade accounting for an increasing share of total employment as one moves from large metro (10.7 percent in 2017) to rural areas (11.7 percent)—though the differences are only slight.

The Appalachian portions of South Carolina (10.5 percent), Alabama (10.6 percent), and Mississippi (10.8 percent) had the lowest Retail Trade shares in the Region in 2017, and these three states were also the only ones in the Region in which the Appalachian portions had smaller industrial shares than the non-Appalachian portions. The Appalachian portions of Maryland (13.6 percent), Kentucky (12.2 percent), and Ohio (12 percent) had the largest shares.

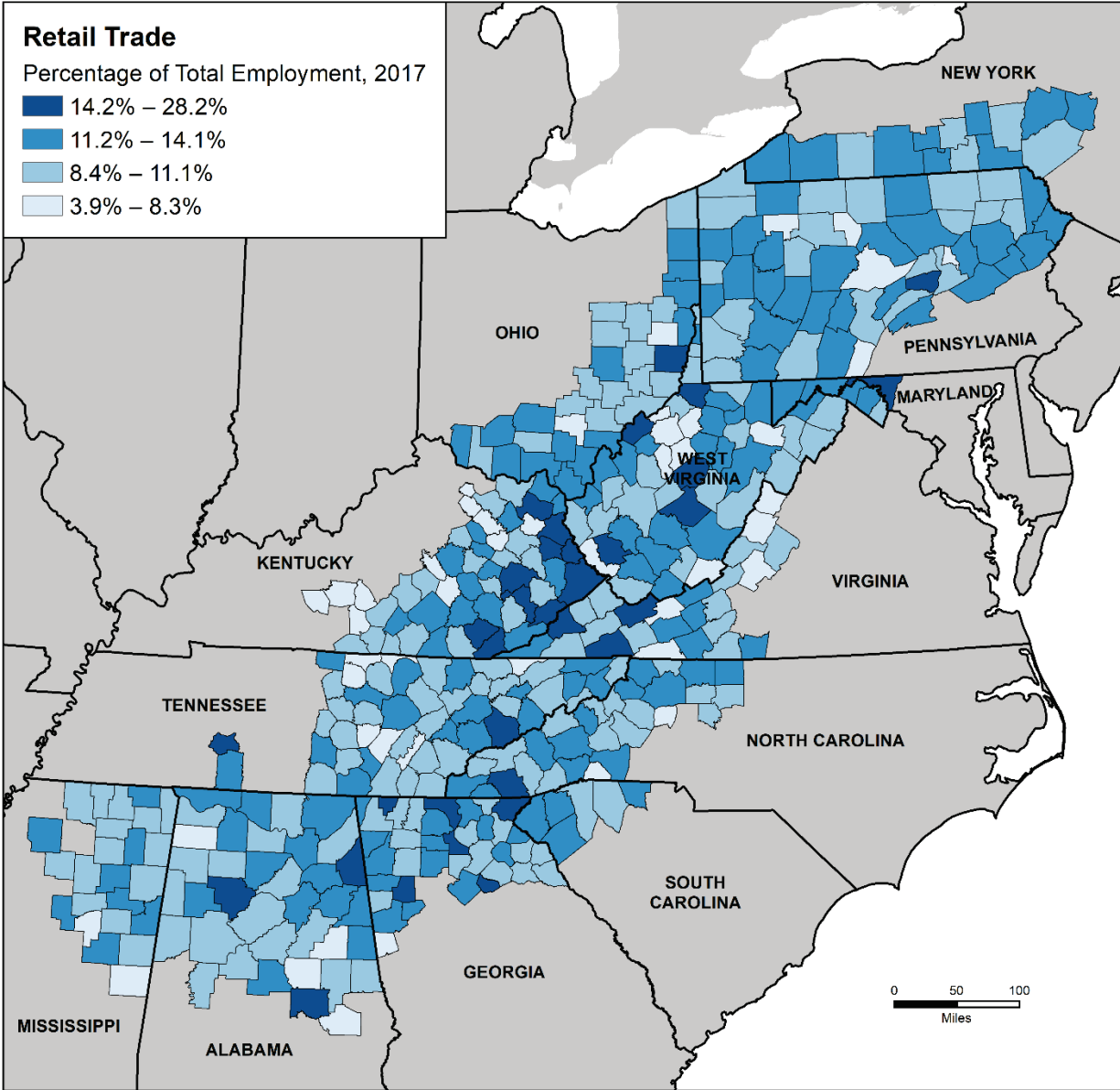
Figure 19 then displays the county-level industrial shares throughout the Region.

**Table 8: Employment and industrial shares, Retail Trade, 2002, 2007, 2012, and 2017**

Retail Trade	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	18,187	18,969	18,074	19,222	11.0	10.6	10.1	9.8
<b>Appalachian Region</b>	1,507	1,543	1,456	1,493	12.3	11.8	11.4	11.1
<b>Non-Appalachian U.S.</b>	16,680	17,426	16,618	17,730	10.9	10.5	10.0	9.7
<b>Subregions</b>								
Northern Appalachia	549	540	513	502	12.4	11.9	11.4	11.0
North Central Appalachia	139	143	135	133	12.8	12.6	11.8	11.8
Central Appalachia	96	94	89	89	12.6	11.9	11.6	11.8
South Central Appalachia	290	300	281	297	12.0	11.5	11.3	11.2
Southern Appalachia	433	466	437	472	12.1	11.5	11.1	10.9
<b>County Types</b>								
Large Metros (pop. 1 million +)	352	368	348	365	12.4	11.6	11.1	10.7
Small Metros (pop. <1 million)	666	685	648	665	12.2	11.7	11.3	11.1
Nonmetro, Adjacent to Large Metros	128	127	118	118	12.6	12.1	11.7	11.4
Nonmetro, Adjacent to Small Metros	218	220	205	207	12.3	11.9	11.6	11.4
Rural (nonmetro, not adj. to a metro)	143	143	136	138	12.2	11.9	11.6	11.7
<b>Alabama</b>	278	293	273	283	11.8	11.2	10.9	10.7
Appalachian Alabama	178	186	174	181	11.7	11.1	10.8	10.6
Non-Appalachian Alabama	100	107	99	102	11.9	11.4	11.0	10.8
<b>Georgia</b>	537	578	542	601	11.1	10.5	10.1	9.9
Appalachian Georgia	147	169	160	180	12.7	12.0	11.8	11.4
Non-Appalachian Georgia	391	410	382	422	10.6	10.0	9.5	9.3
<b>Kentucky</b>	259	261	247	261	11.4	10.8	10.3	10.4
Appalachian Kentucky	63	62	58	59	13.0	12.4	11.9	12.2
Non-Appalachian Kentucky	196	200	189	202	11.0	10.4	9.9	9.9
<b>Maryland</b>	348	363	340	345	11.0	10.5	9.9	9.3
Appalachian Maryland	18	20	19	19	13.9	14.1	13.8	13.6
Non-Appalachian Maryland	330	343	321	326	10.9	10.4	9.7	9.2
<b>Mississippi</b>	169	172	164	172	11.6	11.2	10.8	10.8
Appalachian Mississippi	35	34	34	35	11.6	11.2	11.0	10.8
Non-Appalachian Mississippi	134	138	130	137	11.6	11.2	10.7	10.8
<b>New York</b>	1,006	1,059	1,073	1,103	9.7	9.6	9.4	8.9
Appalachian New York	67	67	63	60	12.1	11.8	11.6	11.3
Non-Appalachian New York	939	992	1,010	1,042	9.6	9.4	9.3	8.8
<b>North Carolina</b>	533	568	548	603	11.0	10.5	10.2	10.2
Appalachian North Carolina	99	100	96	103	11.5	10.9	11.0	11.0
Non-Appalachian North Carolina	434	468	452	500	10.9	10.4	10.1	10.0
<b>Ohio</b>	762	729	676	692	11.5	10.7	10.2	9.9
Appalachian Ohio	122	120	108	110	13.2	12.9	12.1	12.0
Non-Appalachian Ohio	640	609	567	582	11.2	10.4	9.9	9.6
<b>Pennsylvania</b>	798	801	769	765	11.6	11.0	10.6	10.0
Appalachian Pennsylvania	380	373	358	348	12.3	11.7	11.2	10.7
Non-Appalachian Pennsylvania	418	428	411	417	11.0	10.5	10.1	9.4
<b>South Carolina</b>	268	288	273	296	11.9	11.6	11.1	10.8
Appalachian South Carolina	73	77	70	77	12.0	11.7	10.8	10.5
Non-Appalachian South Carolina	195	211	203	219	11.9	11.6	11.3	10.9
<b>Tennessee</b>	388	412	389	416	11.4	11.1	10.7	10.4
Appalachian Tennessee	171	179	167	175	12.1	11.7	11.3	11.2
Non-Appalachian Tennessee	217	233	221	240	10.9	10.7	10.2	9.9
<b>Virginia</b>	479	509	482	500	10.8	10.4	9.9	9.6
Appalachian Virginia	45	46	42	42	12.3	12.0	11.7	11.7
Non-Appalachian Virginia	433	463	439	458	10.7	10.3	9.8	9.5
<b>West Virginia (entire state)</b>	109	112	107	103	12.5	12.3	11.6	11.6

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 19: Percentage of total employment in the Appalachian Region, Retail Trade, 2017



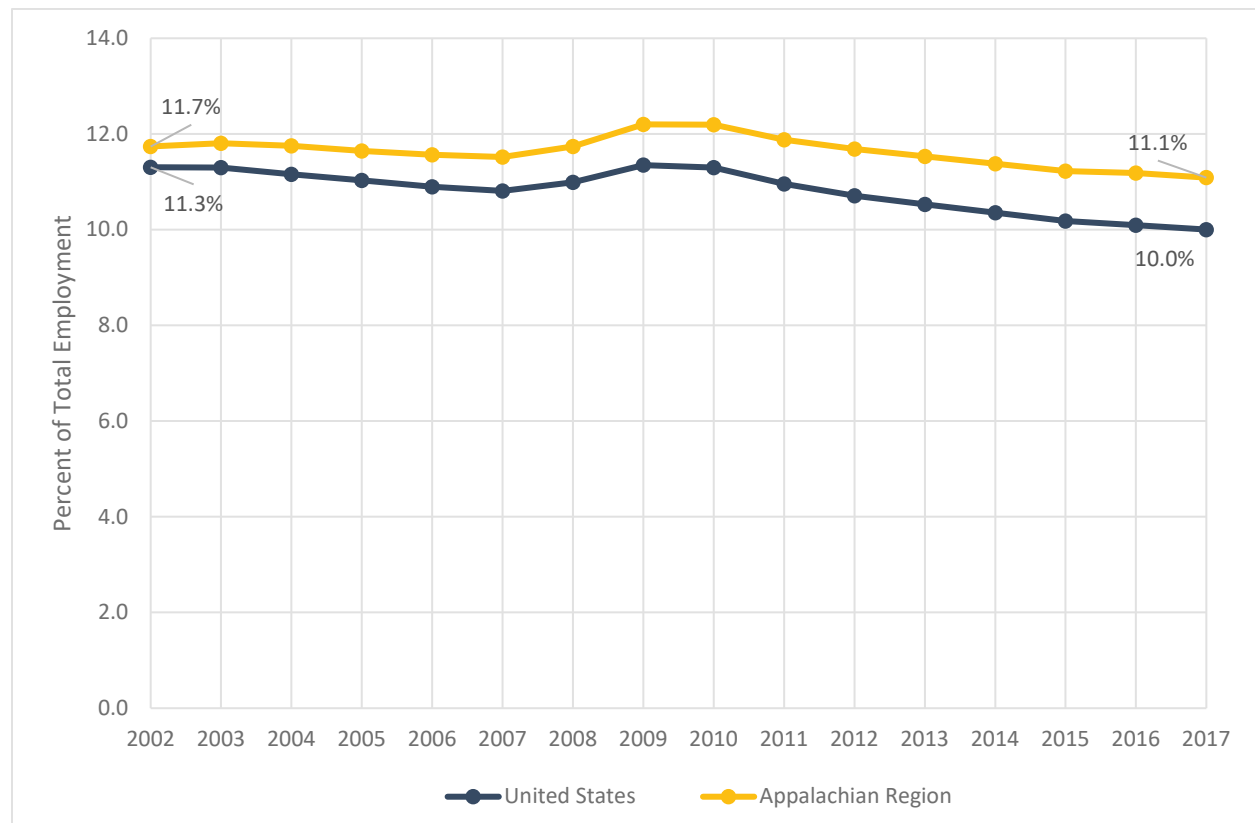
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## State and Local Government

This sector includes all those employed by any state or local government, regardless of establishment classification. In addition to all governmental offices, departments, and agencies, also included are public schools, police and fire departments, and public colleges and universities.

Both the Appalachian Region and the United States overall saw slight declines in their State and Local Government industrial shares in recent years, though the country as a whole experienced an even steeper decline, dropping from 11.3 percent in 2002 to 10 percent in 2017. Appalachia meanwhile saw State and Local Government's share of overall employment drop from 11.7 percent to 11.1 percent over the same time period.

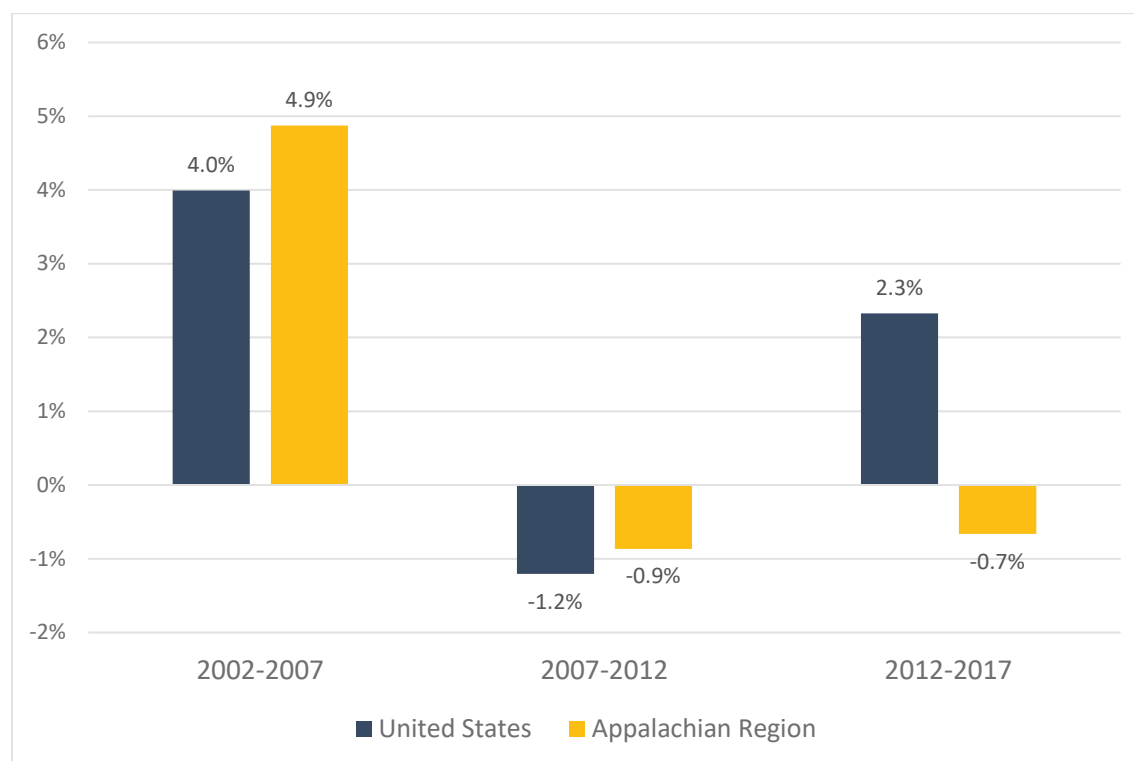
**Figure 20: Industrial share, State and Local Government, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 21, we see that Appalachia had slightly faster growth in employment from 2002 to 2007 than the United States as a whole, and then a smaller decrease than the country overall from 2007 to 2012. However, in the most recent period, the Region saw a decline in employment of 0.7 percent, whereas the United States experienced growth of 2.3 percent.

**Figure 21: Percent change in employment, State and Local Government, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Table 9, among the subregions, North Central and Central Appalachia had the highest industrial shares in 2017, at 14 percent for each. Northern (10.4 percent) and Southern Appalachia (10.5 percent) had the lowest shares, though these were still above U.S. shares overall. A larger share of total employment belonged to State and Local Government as one moved from large metro (8 percent) to nonmetro and rural areas, which ranged from 12.4 to 13.3 percent.

In 2017, seven states had Appalachian portions with larger industrial shares in State and Local Government than the non-Appalachian portions, while five states had just the opposite, with these being found primarily in the southern parts of the Region (Alabama, Georgia, Mississippi, North Carolina, and South Carolina). West Virginia had one of the largest shares in the Region at 13.8 percent, with the Appalachian portions of Virginia (16.9 percent), New York (15.2 percent), and Kentucky (13.3 percent) all reporting large State and Local Government shares, as well.

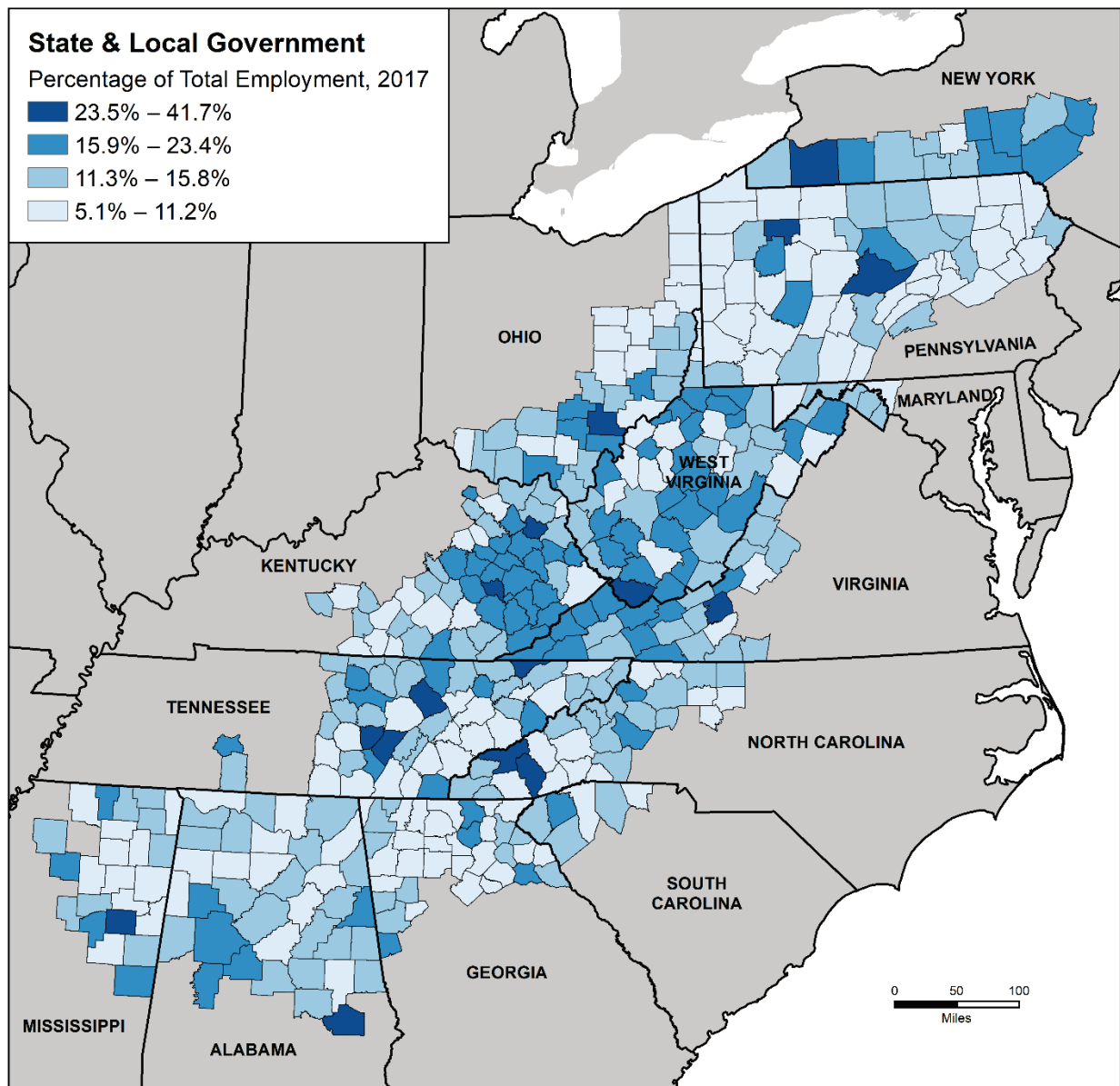
Figure 22 then displays the county-level industrial shares throughout the Region.

**Table 9: Employment and industrial shares, State and Local Government, 2002, 2007, 2012, and 2017**

State & Local Government	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	18,662	19,407	19,173	19,619	11.3	10.8	10.7	10.0
<b>Appalachian Region</b>	1,441	1,511	1,498	1,488	11.7	11.5	11.7	11.1
<b>Non-Appalachian U.S.</b>	17,221	17,896	17,675	18,131	11.3	10.8	10.6	9.9
<b>Subregions</b>								
Northern Appalachia	499	505	489	474	11.3	11.1	10.9	10.4
North Central Appalachia	154	159	163	158	14.2	14.0	14.3	14.0
Central Appalachia	109	113	112	105	14.3	14.3	14.5	14.0
South Central Appalachia	277	290	294	295	11.4	11.1	11.8	11.1
Southern Appalachia	401	443	440	455	11.2	11.0	11.2	10.5
<b>County Types</b>								
Large Metros (pop. 1 million +)	257	280	272	273	9.0	8.9	8.7	8.0
Small Metros (pop. <1 million)	662	690	695	697	12.1	11.8	12.2	11.6
Nonmetro, Adjacent to Large Metros	139	143	139	139	13.7	13.6	13.7	13.3
Nonmetro, Adjacent to Small Metros	223	234	229	225	12.5	12.7	12.9	12.4
Rural (nonmetro, not adj. to a metro)	159	163	163	156	13.7	13.6	13.8	13.2
<b>Alabama</b>	302	322	316	321	12.8	12.3	12.6	12.1
Appalachian Alabama	184	197	195	200	12.1	11.8	12.1	11.7
Non-Appalachian Alabama	117	125	121	122	14.0	13.4	13.6	12.9
<b>Georgia</b>	534	595	576	584	11.0	10.8	10.7	9.6
Appalachian Georgia	111	135	132	136	9.6	9.6	9.8	8.7
Non-Appalachian Georgia	423	460	444	448	11.4	11.3	11.0	9.9
<b>Kentucky</b>	262	277	277	272	11.6	11.5	11.6	10.8
Appalachian Kentucky	68	70	69	64	14.2	14.0	14.0	13.3
Non-Appalachian Kentucky	194	207	208	208	10.9	10.8	10.9	10.2
<b>Maryland</b>	324	339	344	343	10.3	9.9	10.0	9.3
Appalachian Maryland	15	16	16	15	11.3	11.1	11.5	10.9
Non-Appalachian Maryland	309	324	328	328	10.2	9.8	9.9	9.2
<b>Mississippi</b>	217	223	223	219	14.9	14.5	14.7	13.8
Appalachian Mississippi	39	40	40	40	12.8	13.0	13.0	12.5
Non-Appalachian Mississippi	179	183	183	179	15.5	14.9	15.1	14.1
<b>New York</b>	1,316	1,337	1,289	1,287	12.7	12.1	11.3	10.3
Appalachian New York	85	89	84	82	15.5	15.8	15.6	15.2
Non-Appalachian New York	1,230	1,248	1,205	1,205	12.6	11.9	11.1	10.1
<b>North Carolina</b>	580	631	651	658	12.0	11.6	12.2	11.1
Appalachian North Carolina	96	103	103	102	11.2	11.2	11.9	10.9
Non-Appalachian North Carolina	484	528	548	557	12.1	11.7	12.2	11.2
<b>Ohio</b>	724	724	685	692	10.9	10.7	10.4	9.9
Appalachian Ohio	116	115	108	108	12.5	12.3	12.0	11.8
Non-Appalachian Ohio	608	610	577	583	10.6	10.4	10.1	9.6
<b>Pennsylvania</b>	657	668	651	641	9.5	9.2	8.9	8.3
Appalachian Pennsylvania	329	333	325	315	10.7	10.4	10.1	9.7
Non-Appalachian Pennsylvania	328	335	326	326	8.6	8.2	8.0	7.4
<b>South Carolina</b>	294	308	308	323	13.1	12.4	12.6	11.7
Appalachian South Carolina	67	71	73	79	11.0	10.9	11.2	10.8
Non-Appalachian South Carolina	227	236	236	244	13.8	12.9	13.0	12.1
<b>Tennessee</b>	355	374	376	376	10.4	10.1	10.3	9.4
Appalachian Tennessee	155	161	164	165	11.0	10.5	11.1	10.5
Non-Appalachian Tennessee	200	213	212	211	10.1	9.8	9.8	8.7
<b>Virginia</b>	489	525	536	544	11.1	10.8	11.0	10.5
Appalachian Virginia	56	59	59	60	15.4	15.6	16.5	16.9
Non-Appalachian Virginia	433	466	477	484	10.7	10.4	10.6	10.0
<b>West Virginia (entire state)</b>	119	122	130	122	13.7	13.4	14.1	13.8

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 22: Percentage of total employment in the Appalachian Region, State and Local Government, 2017**



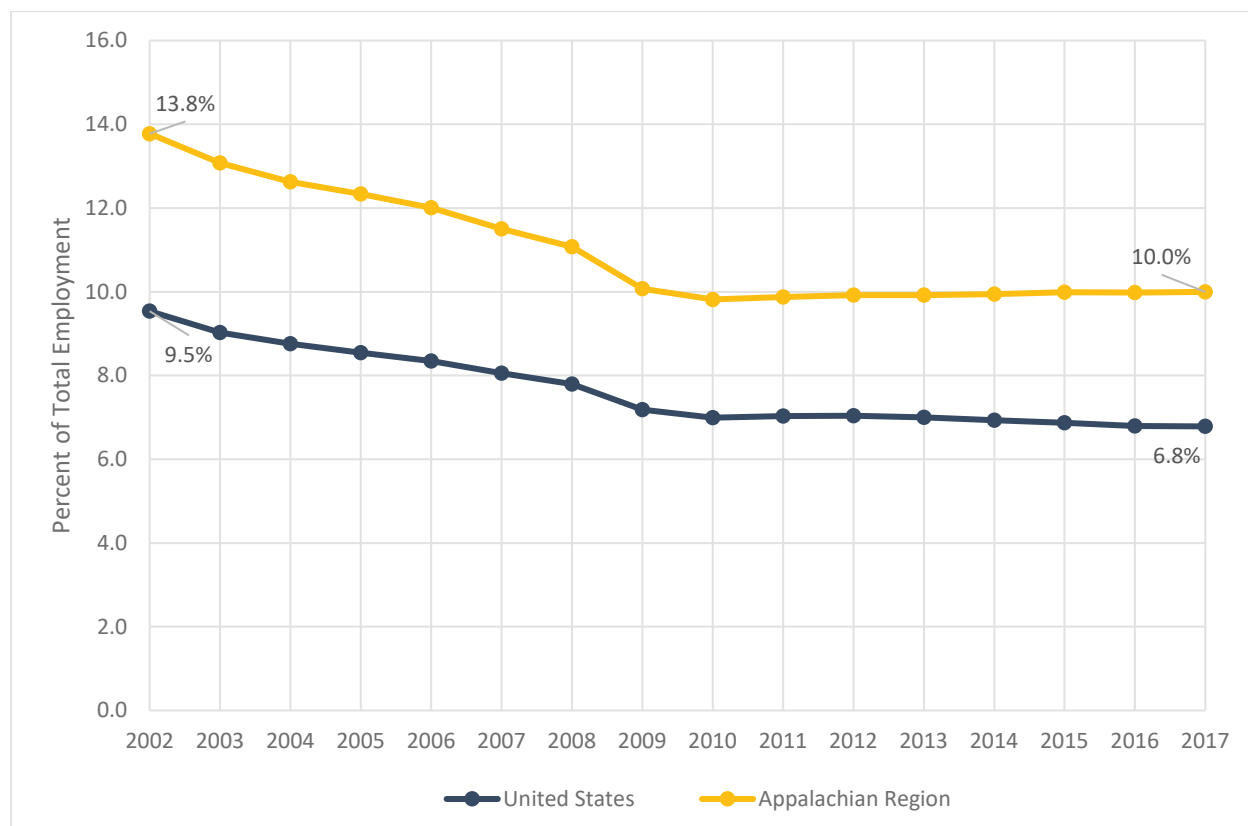
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Manufacturing

This category includes all establishments that transform materials and components into a new product; assemblage of component parts is also included. Plants, factories, and mills are found in this category, and so too are establishments involved with food processing (e.g., canning), fabricated metals, industrial machinery (e.g., computers and office equipment), and transportation equipment (e.g., cars and airplanes).

As noted previously, and as seen below in Figure 23, among all industrial categories, Manufacturing experienced the largest decline over recent years in both Appalachia and the United States as a whole. The Region saw its industrial share decrease from 13.8 percent in 2002 to 10 percent in 2017. Meanwhile, the United States went from having 9.5 percent of overall employment dedicated to manufacturing in 2002 to just 6.8 percent in 2017.

**Figure 23: Industrial share, Manufacturing, 2002–2017**

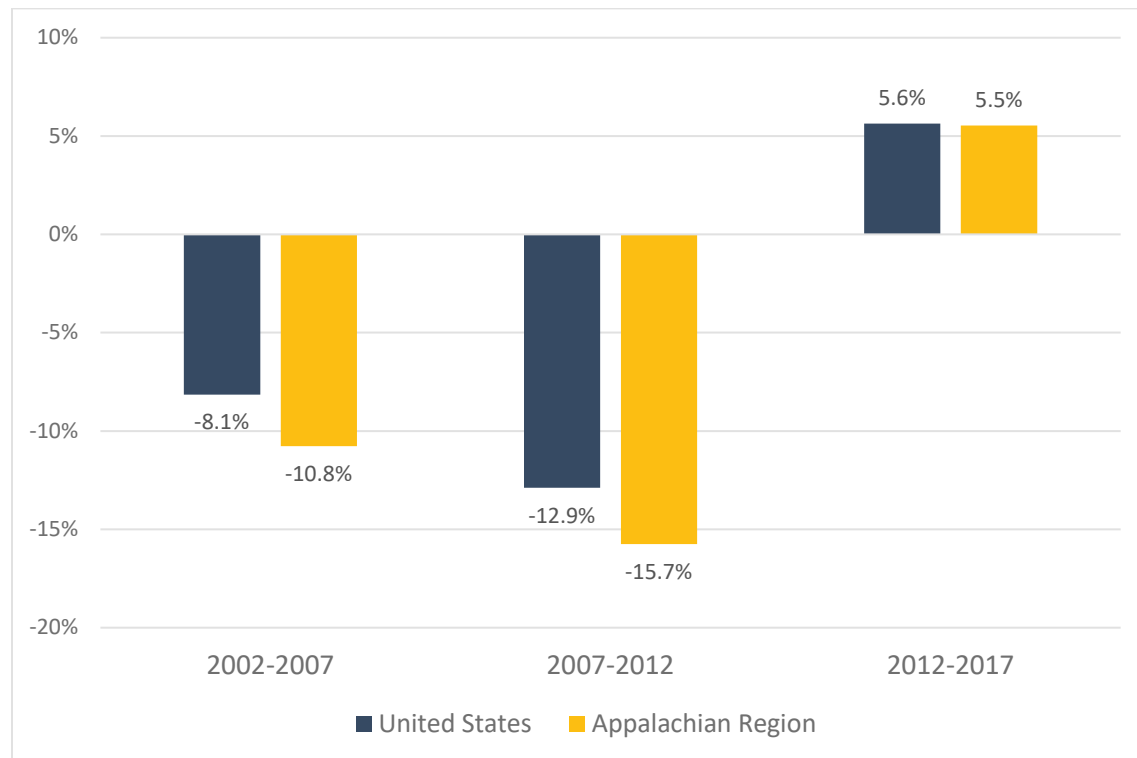


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



Figure 24 shows us the steep drops in Manufacturing employment over recent years, with Appalachia experiencing sharper declines during both the 2002–2007 and 2007–2012 periods than the United States as a whole. However, between 2012 and 2017, employment in the industry increased for both geographies (5.6 percent for the United States and 5.5 percent for the Appalachian Region).

**Figure 24: Percent change in employment, Manufacturing, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Table 10, among the Region’s subregions, South Central (10.7 percent) and Southern Appalachia (11.6 percent) had the largest Manufacturing shares in 2017, with the smallest belonging to North Central Appalachia (6.3 percent). The most noticeable pattern appears again as we move away from cities throughout the Region, as large metro areas (6.5 percent) had a much lower share of total employment dedicated to Manufacturing than nonmetro (13.1 and 13.6 percent, respectively) and rural areas (11.2 percent).

In 2017, other than Kentucky and Ohio, the Appalachian portions of states throughout the Region all had larger shares of manufacturing than the non-Appalachian portions. The Appalachian portions of Mississippi (16 percent), South Carolina (13 percent), and Virginia (11.6 percent) had the largest shares. West Virginia, with just 5.6 percent of total employment in the state dedicated to Manufacturing, had the lowest industrial share in the Region.

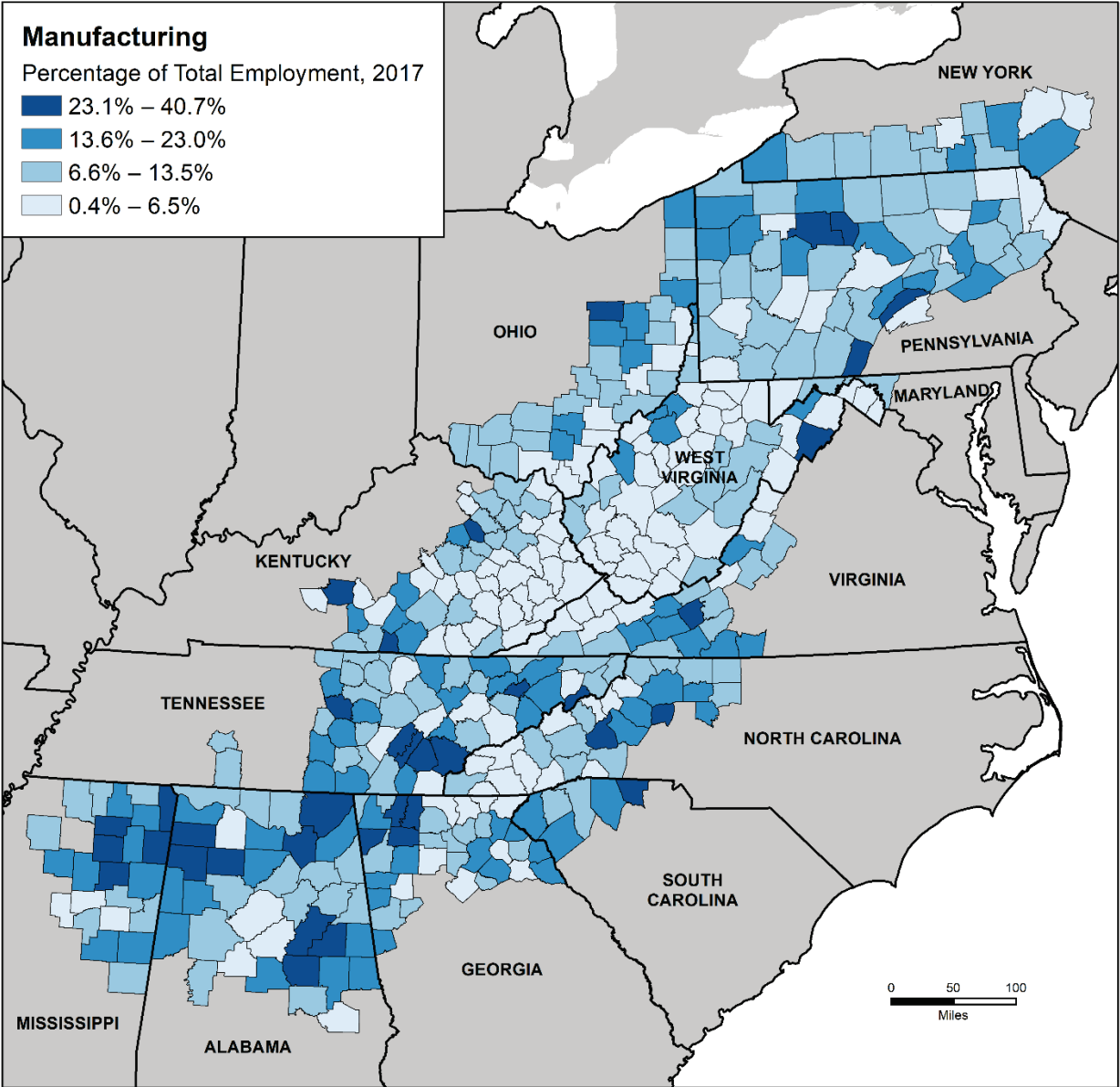
Figure 25 then displays the county-level industrial shares throughout the Region.

**Table 10: Employment and industrial shares, Manufacturing, 2002, 2007, 2012, and 2017**

Manufacturing	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	15,744	14,461	12,597	13,307	9.5	8.1	7.0	6.8
<b>Appalachian Region</b>	1,691	1,509	1,271	1,342	13.8	11.5	9.9	10.0
<b>Non-Appalachian U.S.</b>	14,053	12,952	11,326	11,965	9.2	7.8	6.8	6.5
<b>Subregions</b>								
Northern Appalachia	552	488	421	412	12.5	10.8	9.4	9.0
North Central Appalachia	97	87	74	72	9.0	7.6	6.5	6.3
Central Appalachia	85	78	67	72	11.1	9.9	8.7	9.5
South Central Appalachia	381	322	260	284	15.7	12.4	10.5	10.7
Southern Appalachia	575	533	449	503	16.0	13.2	11.4	11.6
<b>County Types</b>								
Large Metros (pop. 1 million +)	247	236	210	219	8.7	7.5	6.7	6.5
Small Metros (pop. <1 million)	777	686	578	609	14.2	11.7	10.1	10.2
Nonmetro, Adjacent to Large Metros	171	154	129	136	16.9	14.6	12.8	13.1
Nonmetro, Adjacent to Small Metros	314	277	228	246	17.7	15.0	12.8	13.6
Rural (nonmetro, not adj. to a metro)	182	156	127	132	15.6	13.0	10.8	11.2
<b>Alabama</b>	315	304	253	275	13.3	11.7	10.1	10.4
Appalachian Alabama	216	207	166	184	14.2	12.4	10.3	10.8
Non-Appalachian Alabama	99	98	86	91	11.7	10.5	9.6	9.6
<b>Georgia</b>	488	449	374	424	10.0	8.2	6.9	7.0
Appalachian Georgia	177	178	149	171	15.3	12.6	11.0	10.9
Non-Appalachian Georgia	310	271	225	252	8.4	6.6	5.6	5.6
<b>Kentucky</b>	281	262	230	259	12.4	10.9	9.6	10.3
Appalachian Kentucky	52	48	42	44	10.8	9.7	8.6	9.1
Non-Appalachian Kentucky	229	214	188	215	12.9	11.2	9.9	10.6
<b>Maryland</b>	162	139	118	119	5.1	4.0	3.4	3.2
Appalachian Maryland	14	12	10	11	10.9	8.4	7.4	7.7
Non-Appalachian Maryland	148	127	107	108	4.9	3.9	3.2	3.0
<b>Mississippi</b>	192	173	142	151	13.2	11.3	9.3	9.5
Appalachian Mississippi	70	57	49	51	23.2	18.7	15.7	16.0
Non-Appalachian Mississippi	122	116	93	99	10.5	9.4	7.7	7.8
<b>New York</b>	676	581	491	486	6.5	5.2	4.3	3.9
Appalachian New York	73	69	59	55	13.2	12.1	10.8	10.2
Non-Appalachian New York	603	513	432	431	6.2	4.9	4.0	3.6
<b>North Carolina</b>	659	561	460	494	13.6	10.3	8.6	8.3
Appalachian North Carolina	136	107	81	90	15.9	11.6	9.3	9.7
Non-Appalachian North Carolina	523	454	379	404	13.1	10.1	8.4	8.1
<b>Ohio</b>	902	797	683	720	13.6	11.7	10.3	10.3
Appalachian Ohio	133	113	96	95	14.4	12.2	10.7	10.3
Non-Appalachian Ohio	769	684	587	625	13.5	11.7	10.3	10.3
<b>Pennsylvania</b>	778	681	595	596	11.3	9.4	8.2	7.8
Appalachian Pennsylvania	361	323	280	275	11.7	10.1	8.7	8.5
Non-Appalachian Pennsylvania	417	358	315	321	11.0	8.8	7.7	7.2
<b>South Carolina</b>	296	257	229	251	13.2	10.4	9.4	9.1
Appalachian South Carolina	112	91	85	95	18.4	13.9	13.1	13.0
Non-Appalachian South Carolina	184	166	144	156	11.2	9.1	8.0	7.7
<b>Tennessee</b>	440	395	327	366	12.9	10.7	9.0	9.1
Appalachian Tennessee	214	190	161	178	15.1	12.5	10.9	11.3
Non-Appalachian Tennessee	226	205	166	188	11.3	9.4	7.7	7.7
<b>Virginia</b>	329	286	243	251	7.4	5.9	5.0	4.8
Appalachian Virginia	61	53	41	42	16.7	13.9	11.5	11.6
Non-Appalachian Virginia	267	233	202	209	6.6	5.2	4.5	4.3
<b>West Virginia (entire state)</b>	71	62	52	50	8.1	6.7	5.7	5.6

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 25: Percentage of total employment in the Appalachian Region, Manufacturing, 2017



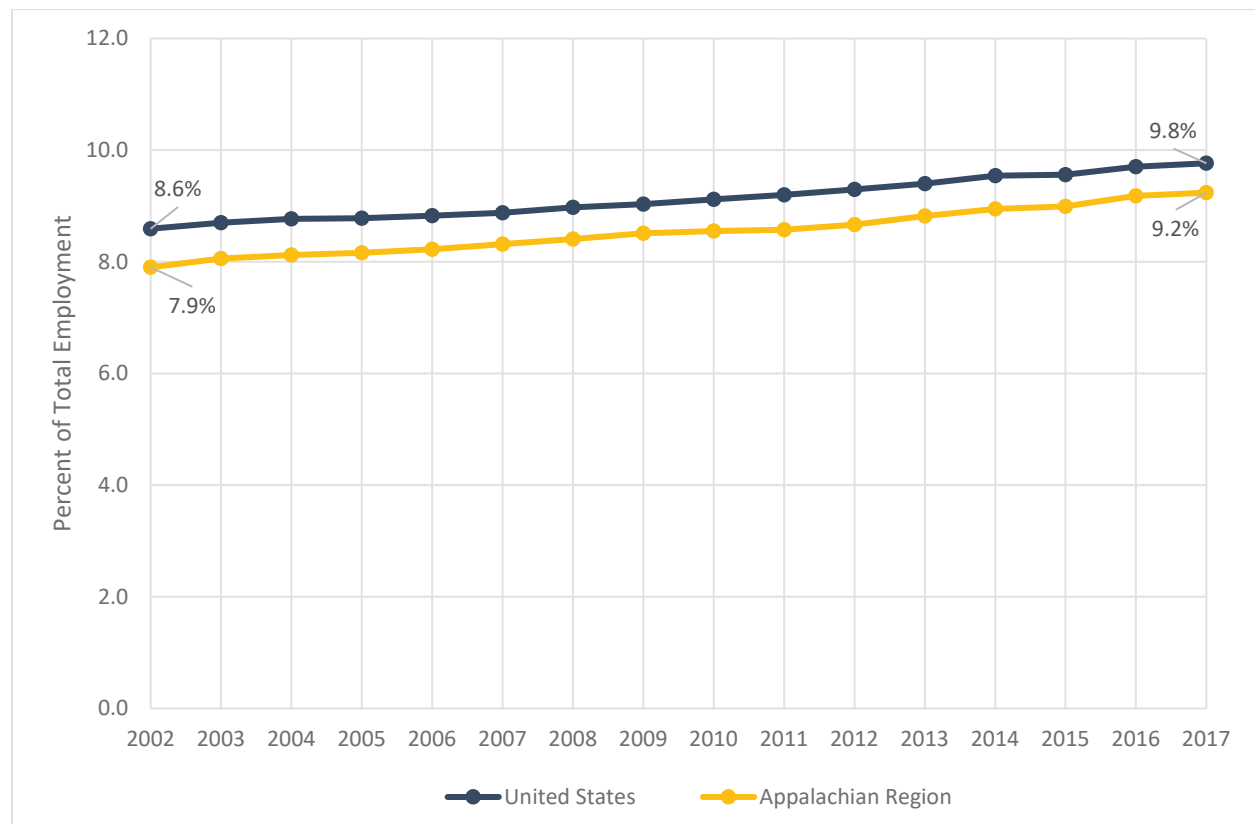
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Food, Lodging, and Entertainment

This category includes a wide range of establishments engaged primarily in amusement, hobby, and leisure time activities (e.g., performing arts venues, sporting event venues, zoos, golf courses, and casinos). Also included are bars and restaurants, as well any sort of lodging (e.g., hotels, motels, bed and breakfasts, and campgrounds).

As seen in Figure 26, the share of total employment dedicated to this industry increased steadily from 2002 to 2017—for both Appalachia and the United States as a whole. Though the country overall had a larger share of total employment engaged in the sector over the past 15 years, the gap between the country as a whole and Appalachia decreased ever so slightly; in 2002, the United States had an 8.6 percent industrial share in Food, Lodging, and Entertainment, and the Region's share was 7.9 percent. In 2017, the United States had a 9.8 percent share, compared with 9.2 percent in the Region.

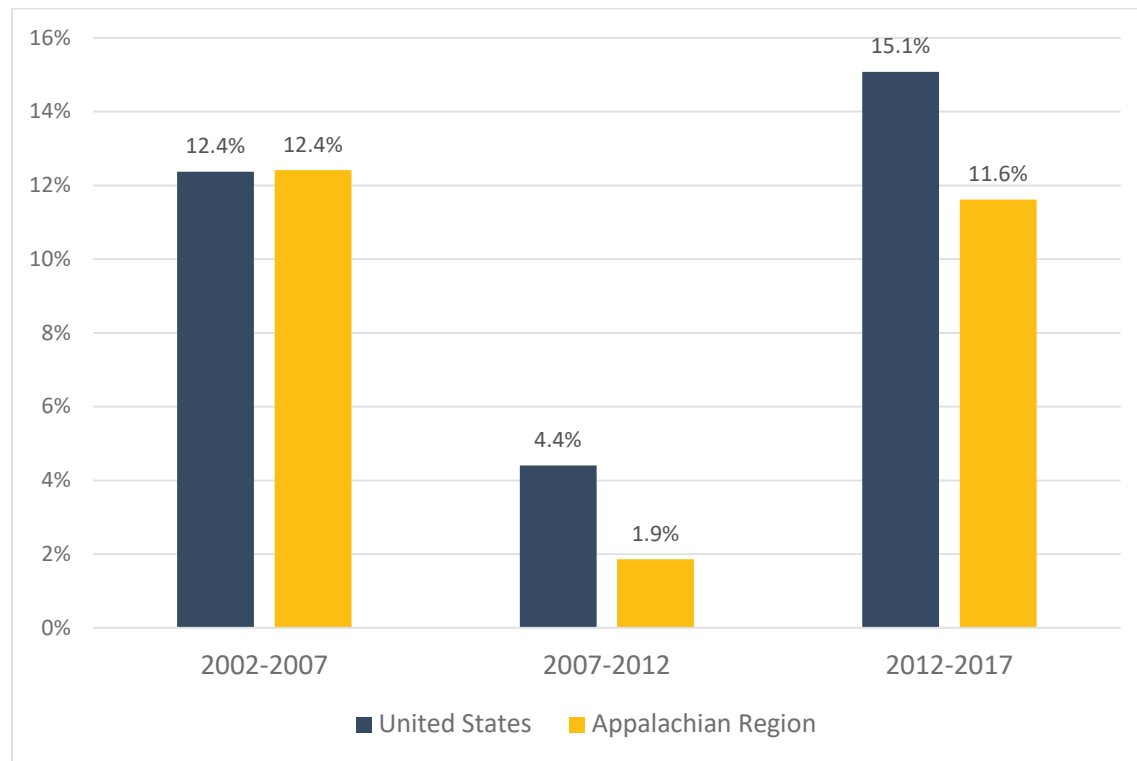
**Figure 26: Industrial share, Food, Lodging, and Entertainment, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 27 we see that in terms of employment growth in the industry, both the United States and Appalachia experienced growth of 12.4 percent during the 2002–2007 period. However, in the subsequent time periods, the Region’s growth was slower than in the country overall.

**Figure 27: Percent change in employment, Food, Lodging, and Entertainment, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 11 we see that South Central Appalachia (10.5 percent) had the largest industrial share of all subregions in 2017, and Central Appalachia (7.2 percent) the smallest. A slight pattern exists based on metro designation throughout the Region, with metro areas having the largest shares (9.4 and 9.6 percent), followed by nonmetro areas (8.3 and 9.2 percent), and rural areas (8 percent).

The Appalachian portions of North Carolina (10.9 percent) and Tennessee (10.2 percent) had the largest Food, Lodging, and Entertainment shares among states in the Region in 2017, with the values in each being higher than those found in the non-Appalachian portions of the two states. Meanwhile, the Appalachian portions of Mississippi (7.4 percent) and Kentucky (7.7 percent) had the smallest shares.

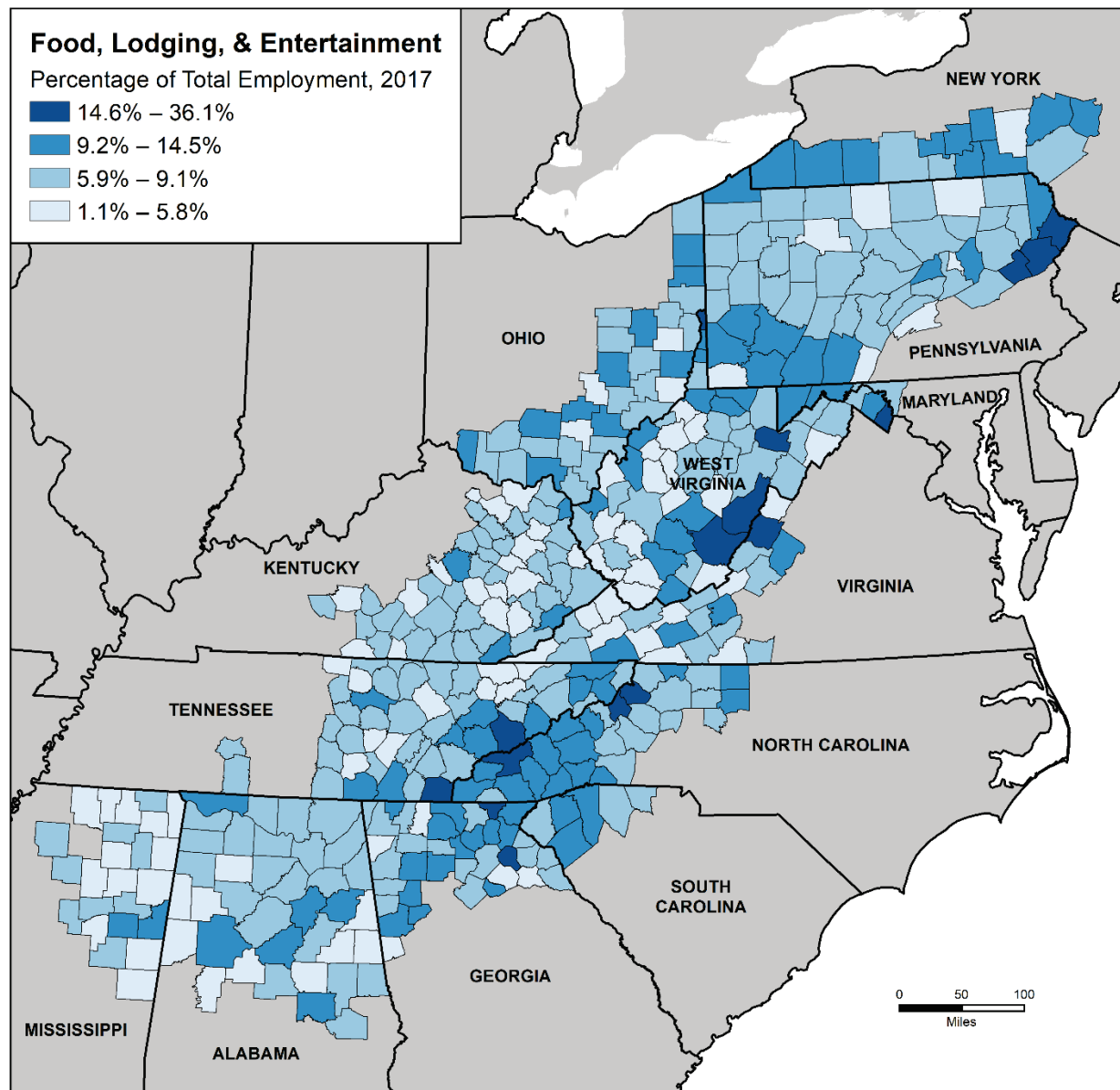
Figure 28 then displays the county-level industrial shares throughout the Region.

**Table 11: Employment and ind. shares, Food, Lodging, and Entertainment, 2002, 2007, 2012, and 2017**

Food, Lodging, Entertainment	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	14,187	15,943	16,645	19,155	8.6	8.9	9.3	9.8
<b>Appalachian Region</b>	970	1,091	1,111	1,240	7.9	8.3	8.7	9.2
<b>Non-Appalachian U.S.</b>	13,217	14,852	15,534	17,915	8.6	8.9	9.3	9.8
<b>Subregions</b>								
Northern Appalachia	369	387	397	420	8.4	8.5	8.8	9.2
North Central Appalachia	90	99	103	108	8.3	8.7	9.1	9.5
Central Appalachia	46	52	51	54	6.1	6.6	6.6	7.2
South Central Appalachia	205	237	242	278	8.4	9.1	9.7	10.5
Southern Appalachia	261	316	318	380	7.3	7.8	8.1	8.8
<b>County Types</b>								
Large Metros (pop. 1 million +)	233	271	279	320	8.2	8.6	8.9	9.4
Small Metros (pop. <1 million)	445	503	514	573	8.1	8.6	9.0	9.6
Nonmetro, Adjacent to Large Metros	75	78	79	86	7.3	7.4	7.8	8.3
Nonmetro, Adjacent to Small Metros	139	152	154	167	7.8	8.2	8.7	9.2
Rural (nonmetro, not adj. to a metro)	79	86	86	94	6.8	7.2	7.3	8.0
<b>Alabama</b>	173	200	204	236	7.3	7.7	8.1	8.9
Appalachian Alabama	109	126	128	147	7.1	7.5	7.9	8.6
Non-Appalachian Alabama	64	75	76	89	7.6	8.0	8.5	9.4
<b>Georgia</b>	392	470	481	579	8.1	8.6	8.9	9.5
Appalachian Georgia	85	112	111	140	7.3	7.9	8.2	8.9
Non-Appalachian Georgia	307	358	370	439	8.3	8.8	9.2	9.7
<b>Kentucky</b>	174	197	202	226	7.7	8.2	8.4	9.0
Appalachian Kentucky	31	34	34	37	6.4	6.9	7.0	7.7
Non-Appalachian Kentucky	143	163	167	189	8.0	8.5	8.8	9.3
<b>Maryland</b>	258	287	302	345	8.2	8.3	8.8	9.3
Appalachian Maryland	11	12	13	14	8.0	8.8	9.4	9.7
Non-Appalachian Maryland	248	275	289	331	8.2	8.3	8.8	9.3
<b>Mississippi</b>	135	141	140	155	9.3	9.2	9.2	9.8
Appalachian Mississippi	17	20	20	24	5.7	6.4	6.6	7.4
Non-Appalachian Mississippi	118	122	119	132	10.2	9.9	9.9	10.4
<b>New York</b>	824	919	1,048	1,211	8.0	8.3	9.2	9.7
Appalachian New York	46	47	49	53	8.3	8.4	9.0	9.8
Non-Appalachian New York	779	872	999	1,159	7.9	8.3	9.2	9.7
<b>North Carolina</b>	384	461	493	582	7.9	8.5	9.2	9.8
Appalachian North Carolina	73	85	86	102	8.5	9.2	9.9	10.9
Non-Appalachian North Carolina	311	376	407	480	7.8	8.3	9.1	9.6
<b>Ohio</b>	555	582	588	654	8.4	8.6	8.9	9.3
Appalachian Ohio	76	78	78	84	8.2	8.4	8.7	9.2
Non-Appalachian Ohio	479	504	510	570	8.4	8.6	8.9	9.4
<b>Pennsylvania</b>	543	590	623	678	7.9	8.1	8.5	8.8
Appalachian Pennsylvania	256	270	278	295	8.3	8.4	8.7	9.1
Non-Appalachian Pennsylvania	287	321	344	383	7.6	7.9	8.4	8.6
<b>South Carolina</b>	211	247	253	295	9.4	9.9	10.3	10.7
Appalachian South Carolina	50	59	59	68	8.3	9.0	9.1	9.3
Non-Appalachian South Carolina	161	188	194	227	9.8	10.3	10.8	11.3
<b>Tennessee</b>	286	334	342	406	8.4	9.0	9.4	10.1
Appalachian Tennessee	116	136	139	160	8.2	8.9	9.4	10.2
Non-Appalachian Tennessee	170	198	204	246	8.5	9.1	9.4	10.1
<b>Virginia</b>	353	407	427	481	8.0	8.4	8.8	9.3
Appalachian Virginia	28	31	30	30	7.7	8.1	8.4	8.4
Non-Appalachian Virginia	325	376	397	451	8.0	8.4	8.8	9.3
<b>West Virginia (entire state)</b>	73	82	85	85	8.4	8.9	9.2	9.6

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 28: Percentage of total employment in the Appalachian Region, Food, Lodging, and Entertainment, 2017**



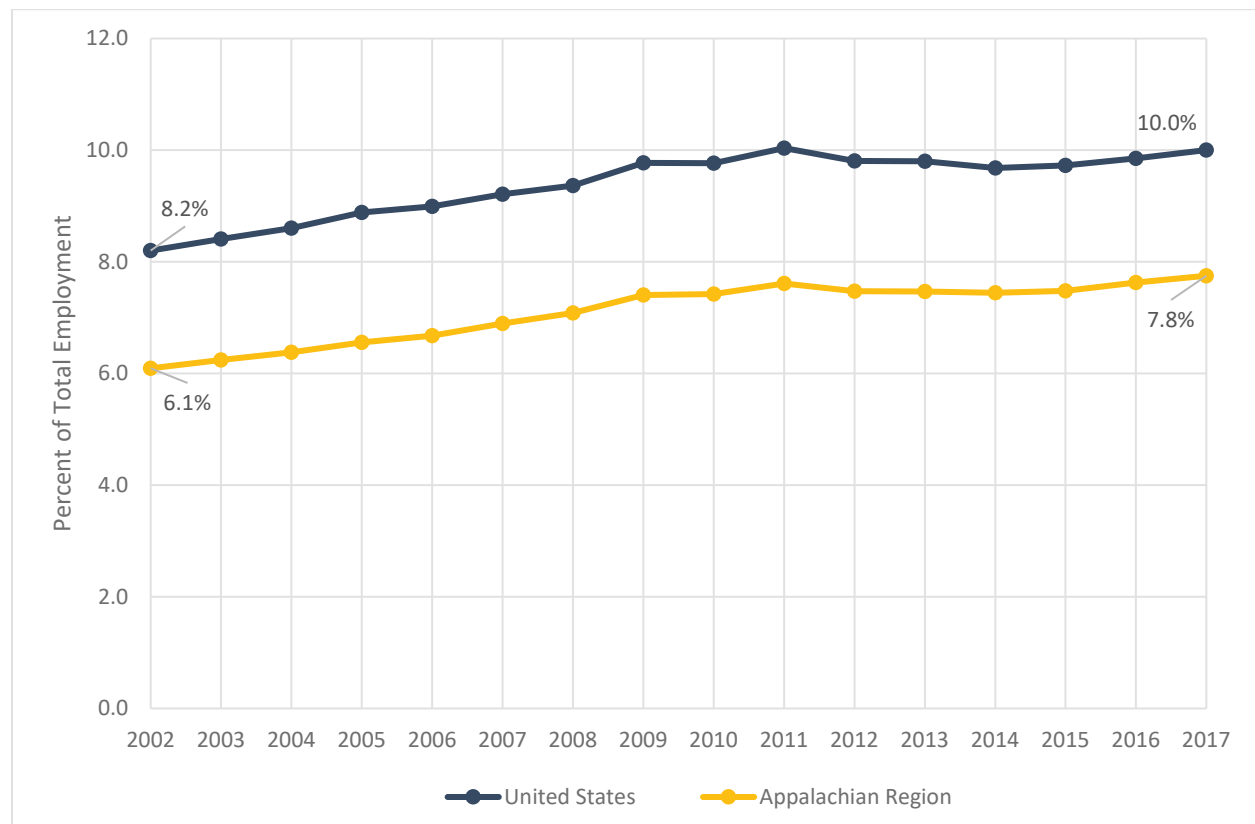
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Finance, Insurance, and Real Estate

This sector includes all establishments engaged in financial services (e.g., banks, credit unions, and investment companies), insurance agents and brokers, establishments involved in real estate (e.g., agencies, property management, and appraisal firms), and all rental and leasing establishments, including even car and truck rental.

As seen in Figure 29, the Finance, Insurance, and Real Estate industry saw a steady increase in its share of total employment from 2002 to 2017—for both Appalachia and the country as a whole. The gap between the two remained relatively stable over the years; in 2002, Appalachia’s industrial share in the sector was 6.1 percent, compared to 8.2 percent for the United States overall. In 2017, Appalachia’s share of total employment dedicated to the industry was 7.8 percent; at the national level, this figure was 10 percent.

**Figure 29: Industrial share, Finance, Insurance, and Real Estate, 2002–2017**

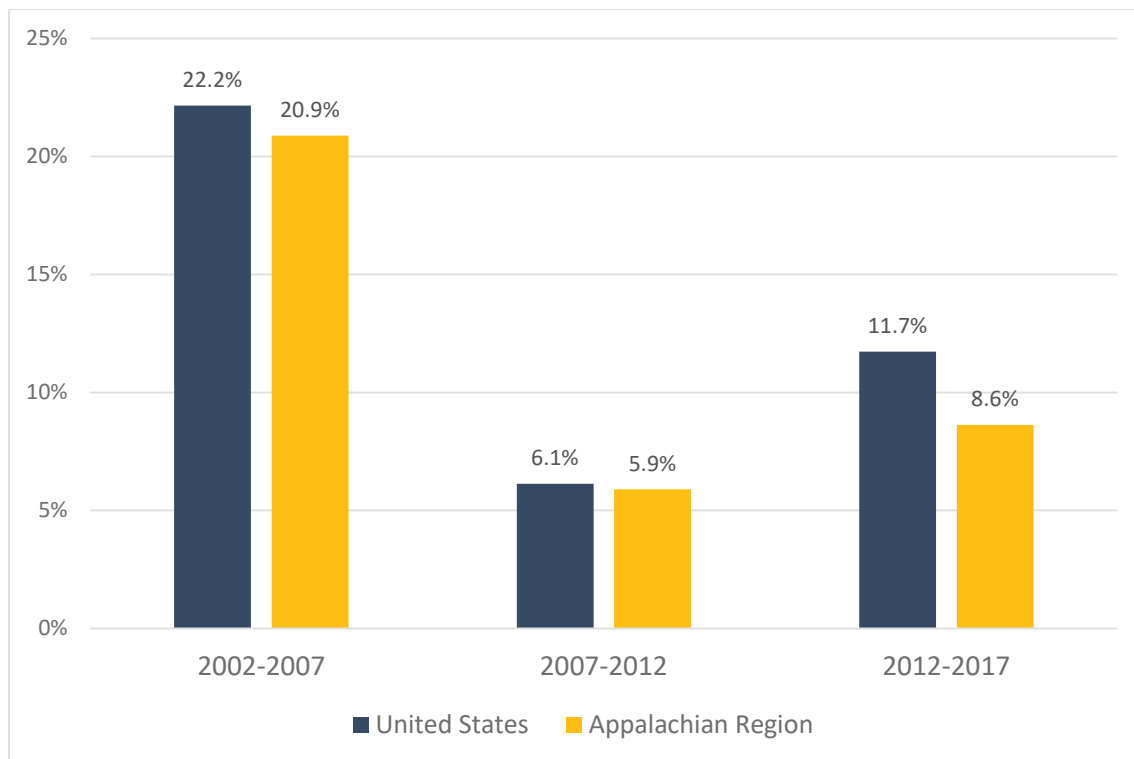


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



In Figure 30, we see that growth in employment in the industry has been comparable in Appalachia and the United States overall for each of the three time periods considered. The largest gap came during the 2012–2017 period, when the United States experienced slightly faster growth than the Region (11.7 percent compared to 8.6 percent).

**Figure 30: Percent change in employment, Finance, Insurance, and Real Estate, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Among the subregions, as seen in Table 12, Northern (7.9 percent) and Southern Appalachia (8.3 percent) had the largest shares in 2017, and Central Appalachia (5.4 percent) the smallest. Again, the most notable variation occurred based on metro designation; as we move from large metro areas (10.2 percent) to rural areas (5.8 percent), industrial shares decrease.

Only in Alabama did the Appalachian portion of the state (8.6 percent) have a larger industrial share than the non-Appalachian portion (7.9 percent) in 2017. The Appalachian portions of Kentucky (5.5 percent) and Mississippi (6 percent)—as well as West Virginia (6 percent)—had the smallest shares in the Region. In addition to Appalachian Alabama, the Appalachian portions of Maryland (9.4 percent) and Georgia (8.7 percent) had high industrial shares in the Finance, Insurance, and Real Estate sector.

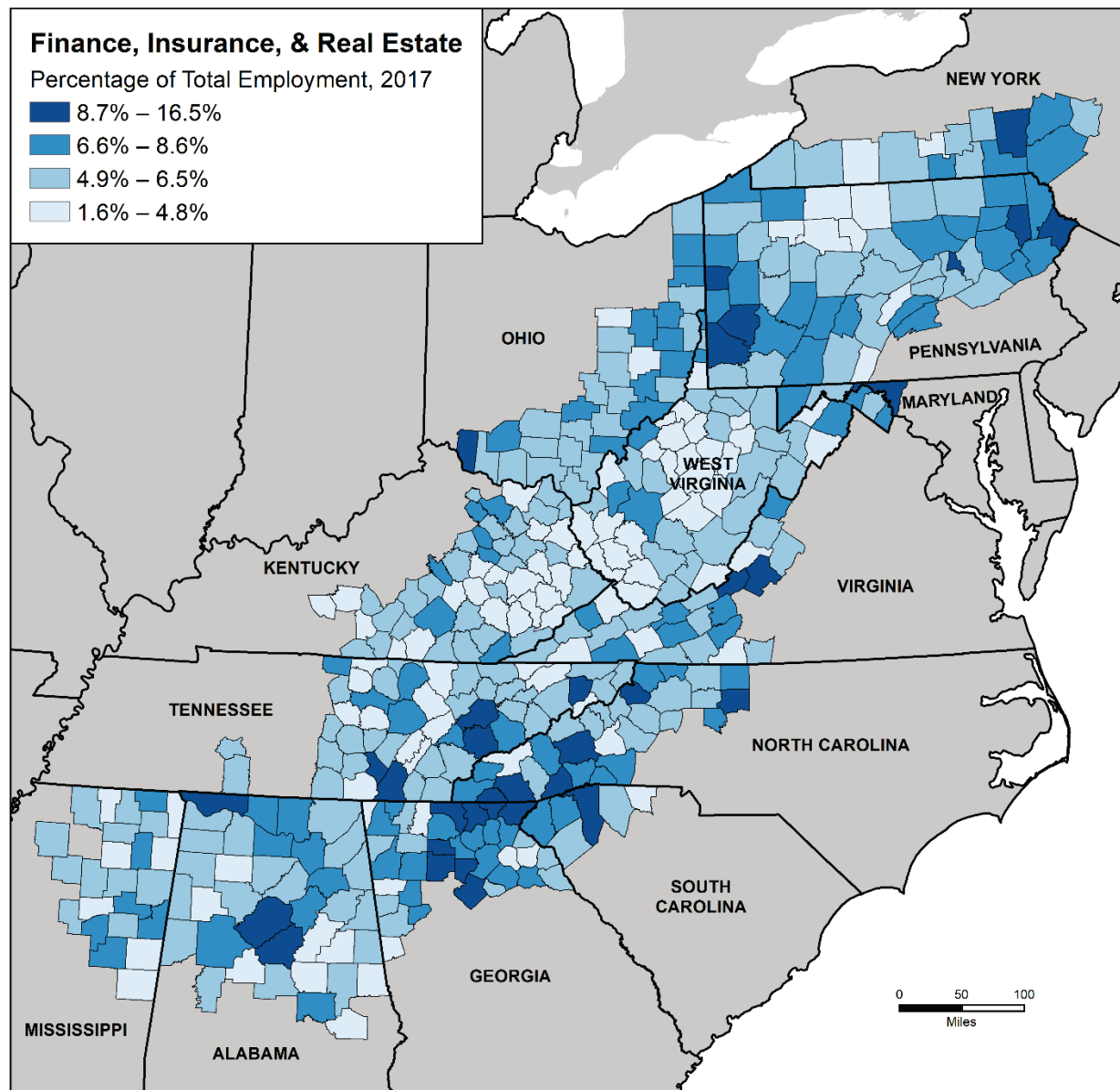
Figure 31 then displays the county-level industrial shares throughout the Region.

**Table 12: Employment and ind. shares, Finance, Insurance, Real Estate, 2002, 2007, 2012, and 2017**

Finance, Insurance, Real Estate	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	13,541	16,543	17,558	19,616	8.2	9.2	9.8	10.0
<b>Appalachian Region</b>	748	904	958	1,040	6.1	6.9	7.5	7.8
<b>Non-Appalachian U.S.</b>	12,793	15,639	16,600	18,576	8.4	9.4	10.0	10.2
<b>Subregions</b>								
Northern Appalachia	277	307	339	361	6.3	6.8	7.5	7.9
North Central Appalachia	61	70	70	72	5.6	6.1	6.2	6.4
Central Appalachia	33	38	40	40	4.3	4.8	5.2	5.4
South Central Appalachia	147	187	190	206	6.1	7.2	7.6	7.8
Southern Appalachia	230	302	318	361	6.4	7.5	8.1	8.3
<b>County Types</b>								
Large Metros (pop. 1 million +)	232	287	313	345	8.1	9.1	10.0	10.2
Small Metros (pop. <1 million)	336	401	419	457	6.2	6.9	7.3	7.6
Nonmetro, Adjacent to Large Metros	48	57	58	62	4.7	5.4	5.7	6.0
Nonmetro, Adjacent to Small Metros	81	99	103	108	4.5	5.3	5.8	5.9
Rural (nonmetro, not adj. to a metro)	51	61	65	68	4.4	5.1	5.5	5.8
<b>Alabama</b>	155	194	203	221	6.6	7.5	8.1	8.3
Appalachian Alabama	101	125	134	146	6.6	7.5	8.3	8.6
Non-Appalachian Alabama	55	70	69	75	6.5	7.5	7.7	7.9
<b>Georgia</b>	361	475	490	557	7.4	8.7	9.1	9.2
Appalachian Georgia	78	115	117	136	6.7	8.1	8.7	8.7
Non-Appalachian Georgia	283	361	372	421	7.7	8.8	9.2	9.3
<b>Kentucky</b>	140	170	182	200	6.2	7.0	7.6	7.9
Appalachian Kentucky	21	24	26	26	4.4	4.9	5.3	5.5
Non-Appalachian Kentucky	119	146	156	173	6.7	7.6	8.2	8.5
<b>Maryland</b>	269	331	332	357	8.5	9.6	9.7	9.7
Appalachian Maryland	11	13	14	13	8.5	9.2	9.9	9.4
Non-Appalachian Maryland	258	319	318	344	8.5	9.7	9.6	9.7
<b>Mississippi</b>	79	95	103	111	5.4	6.2	6.8	7.0
Appalachian Mississippi	14	16	18	19	4.5	5.1	5.8	6.0
Non-Appalachian Mississippi	66	80	85	92	5.7	6.5	7.1	7.2
<b>New York</b>	1,098	1,287	1,440	1,626	10.6	11.6	12.6	13.1
Appalachian New York	28	31	33	34	5.0	5.5	6.1	6.3
Non-Appalachian New York	1,070	1,256	1,406	1,592	10.9	11.9	12.9	13.4
<b>North Carolina</b>	332	438	461	531	6.9	8.1	8.6	9.0
Appalachian North Carolina	51	67	67	74	6.0	7.2	7.7	7.9
Non-Appalachian North Carolina	281	371	394	457	7.1	8.2	8.8	9.2
<b>Ohio</b>	502	552	576	631	7.6	8.1	8.7	9.0
Appalachian Ohio	50	57	59	61	5.4	6.1	6.5	6.7
Non-Appalachian Ohio	452	495	517	570	7.9	8.4	9.1	9.4
<b>Pennsylvania</b>	535	611	662	723	7.8	8.4	9.1	9.4
Appalachian Pennsylvania	204	225	253	274	6.6	7.1	7.9	8.4
Non-Appalachian Pennsylvania	331	385	409	449	8.7	9.5	10.0	10.1
<b>South Carolina</b>	157	209	215	243	7.0	8.4	8.8	8.8
Appalachian South Carolina	38	47	49	58	6.3	7.2	7.6	8.0
Non-Appalachian South Carolina	119	162	166	184	7.3	8.9	9.2	9.1
<b>Tennessee</b>	234	287	294	338	6.9	7.8	8.1	8.4
Appalachian Tennessee	89	113	113	121	6.3	7.4	7.7	7.7
Non-Appalachian Tennessee	145	175	181	216	7.3	8.0	8.4	8.9
<b>Virginia</b>	318	395	414	461	7.2	8.1	8.5	8.9
Appalachian Virginia	16	20	21	22	4.4	5.2	5.9	6.2
Non-Appalachian Virginia	302	375	393	439	7.4	8.4	8.7	9.1
<b>West Virginia (entire state)</b>	47	53	53	53	5.4	5.8	5.7	6.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 31: Percentage of total employment in the Appalachian Region, Finance, Insurance, and Real Estate, 2017**



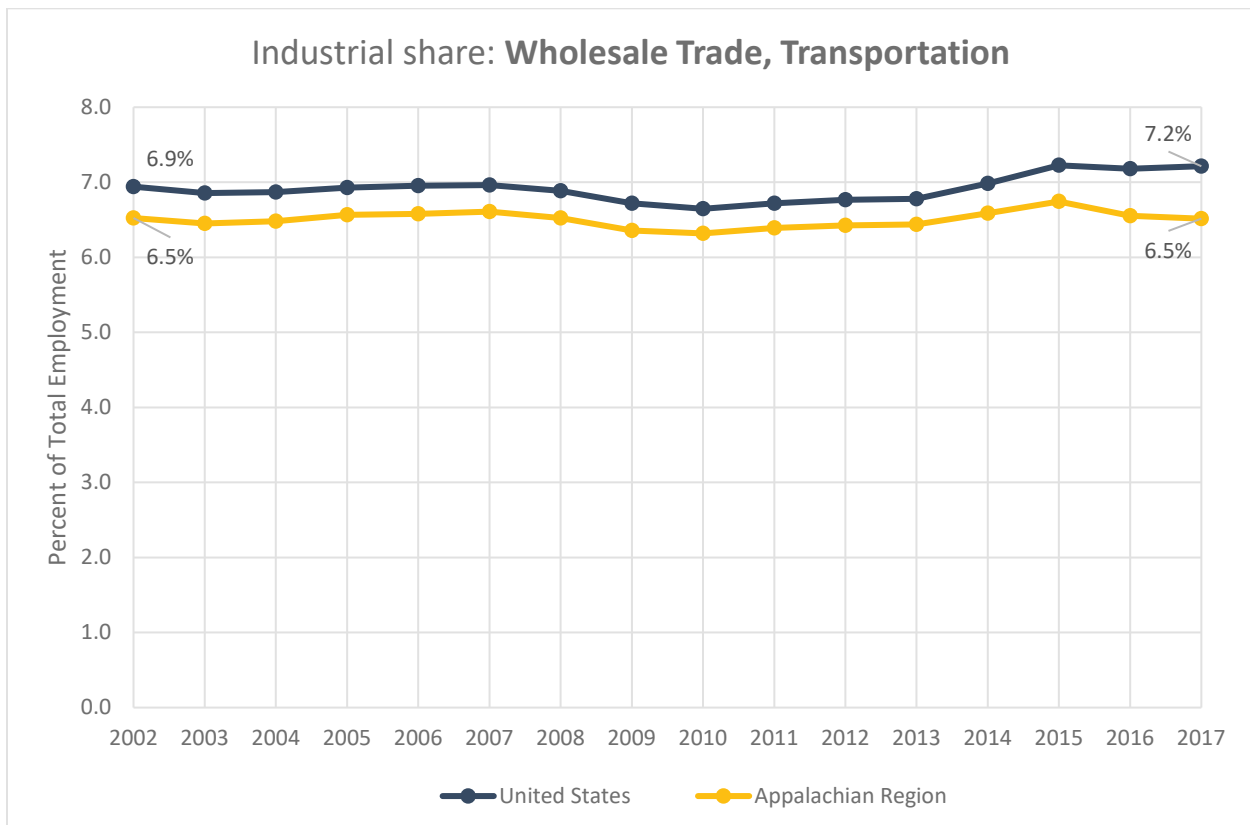
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Wholesale Trade and Transportation

This category includes establishments that wholesale merchandise without transformation (e.g., agricultural and mining outputs) primarily to retailers, wholesalers, and brokers. Also included are all establishments involved in both the warehousing and transportation of goods, such as railroads, trucking, and other shipping services.

In Figure 32 we see that the industrial share for the Appalachian Region, though it varied some in the intervening years, was 6.5 percent in both 2002 and 2017. The United States at large saw its share in the Wholesale Trade and Transportation industry increase from 6.9 percent in 2002 to 7.2 percent in 2017.

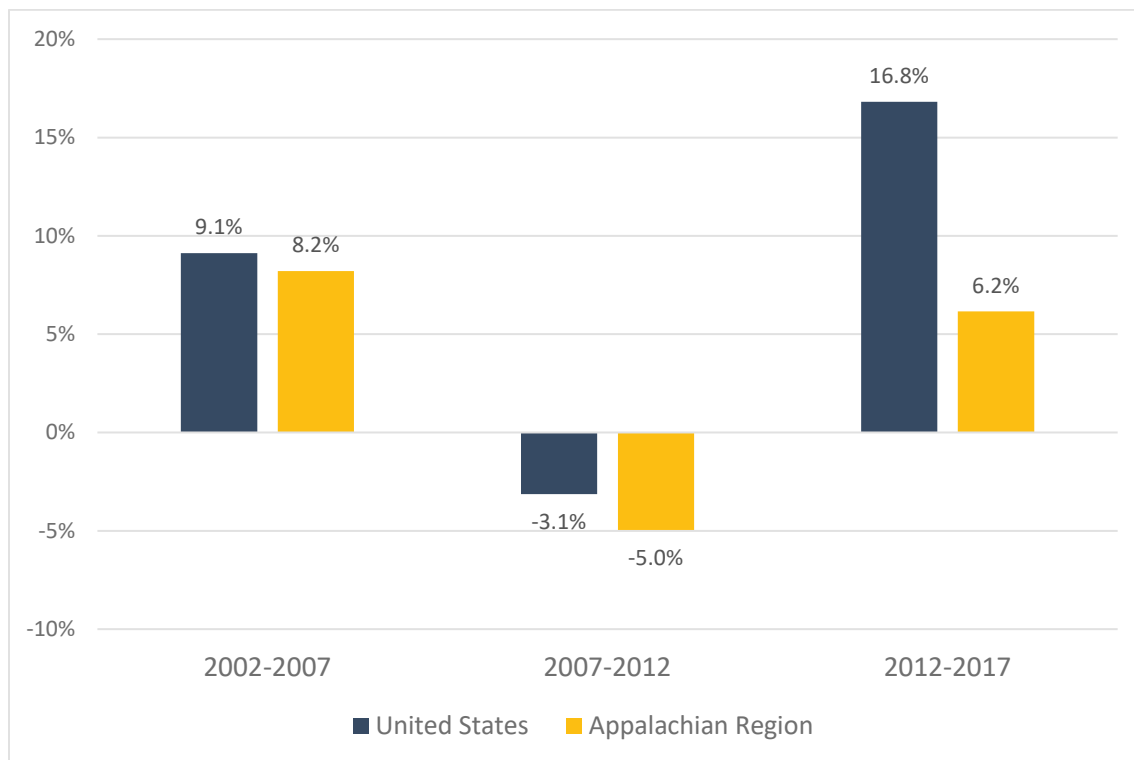
**Figure 32: Industrial share, Wholesale Trade and Transportation, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In terms of employment growth in the Wholesale Trade and Transportation industry, in Figure 33 we see that during the 2002–2007 period, Appalachia experienced slower growth than the United States, and then from 2007 to 2012, a sharper decline. There was large gap in terms of growth in the most recent 2012–2017 period, with the United States experiencing much faster growth than the Region as a whole (16.8 percent compared to 6.2 percent).

**Figure 33: Percent change in employment, Wholesale Trade and Transportation, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Table 13, variation by subregion or metro designation was small. Southern (7.1 percent) and Northern Appalachia (6.6 percent) had the largest industrial shares among the subregions in 2017, and large metro areas (7.5 percent) and small metro areas (6.5 percent) had the largest shares among the metro designations.

For nine of the 12 states with both Appalachian and non-Appalachian portions, the non-Appalachian portions had the larger industrial shares in their respective states in 2017. The largest Wholesale Trade and Transportation industrial shares in the Region belonged to the Appalachian portions of Georgia (8.5 percent) and Maryland (8.1 percent). Meanwhile, the Appalachian portions of New York (4.3 percent) and Kentucky (5.6 percent), along with West Virginia (5.6 percent), had the smallest.

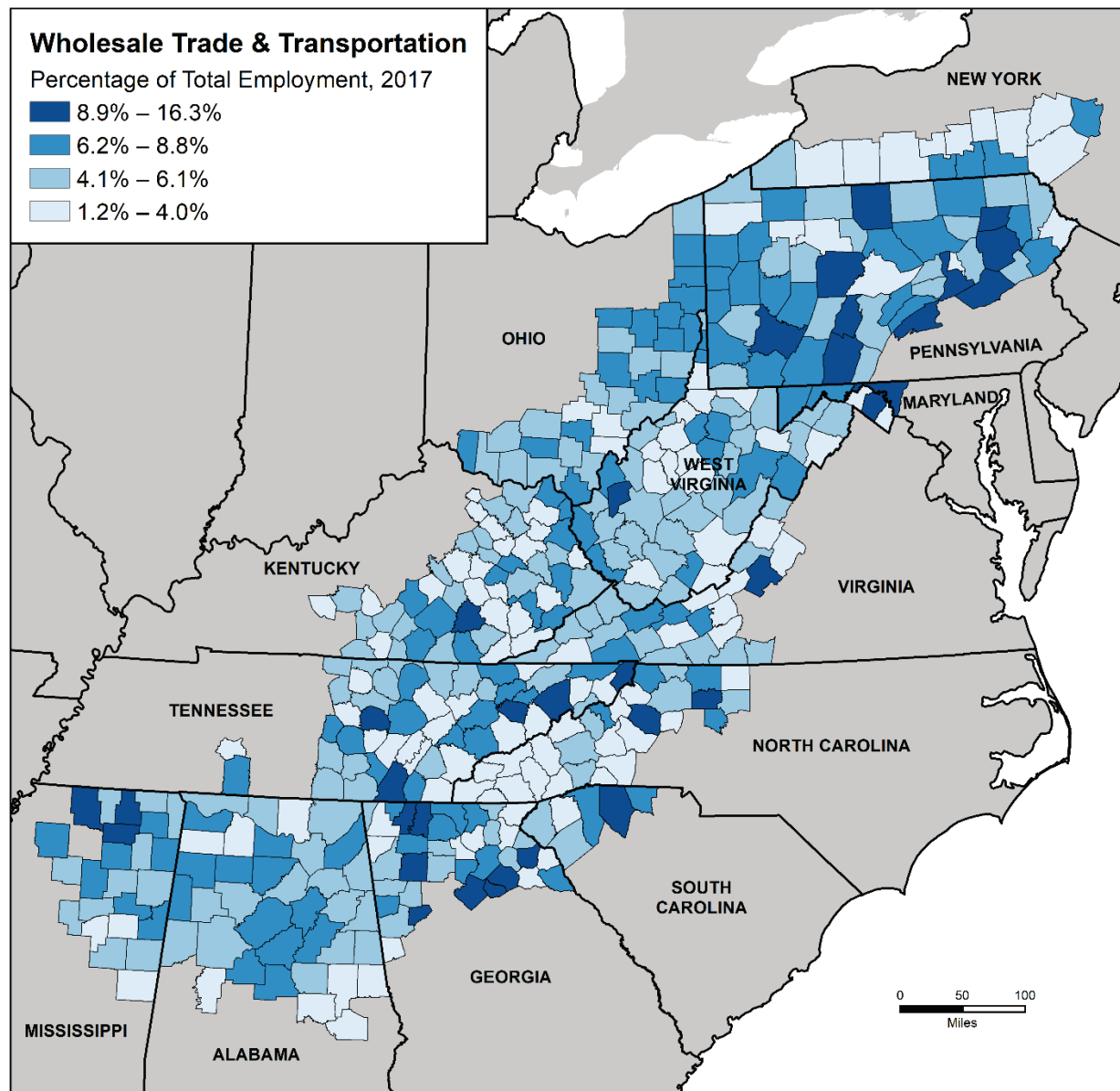
Figure 34 then displays the county-level industrial shares throughout the Region.

**Table 13: Employment and ind. shares, Wholesale Trade and Transportation, 2002, 2007, 2012, 2017**

Wholesale Trade, Transportation	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	11,458	12,504	12,112	14,148	6.9	7.0	6.8	7.2
<b>Appalachian Region</b>	801	867	824	874	6.5	6.6	6.4	6.5
<b>Non-Appalachian U.S.</b>	10,657	11,637	11,289	13,274	7.0	7.0	6.8	7.3
<b>Subregions</b>								
Northern Appalachia	284	302	293	301	6.4	6.6	6.5	6.6
North Central Appalachia	59	64	61	61	5.4	5.6	5.4	5.4
Central Appalachia	47	48	43	40	6.1	6.0	5.5	5.4
South Central Appalachia	158	170	155	162	6.5	6.5	6.2	6.1
Southern Appalachia	253	284	272	310	7.0	7.0	6.9	7.1
<b>County Types</b>								
Large Metros (pop. 1 million +)	220	237	229	255	7.7	7.5	7.3	7.5
Small Metros (pop. <1 million)	360	389	370	388	6.6	6.6	6.5	6.5
Nonmetro, Adjacent to Large Metros	60	65	61	65	5.9	6.2	6.0	6.3
Nonmetro, Adjacent to Small Metros	96	105	99	100	5.4	5.7	5.6	5.5
Rural (nonmetro, not adj. to a metro)	65	70	65	65	5.5	5.8	5.5	5.6
<b>Alabama</b>	153	167	154	162	6.5	6.4	6.2	6.1
Appalachian Alabama	96	105	98	102	6.3	6.3	6.1	6.0
Non-Appalachian Alabama	57	62	56	60	6.8	6.6	6.3	6.3
<b>Georgia</b>	411	455	439	531	8.5	8.3	8.2	8.7
Appalachian Georgia	95	110	108	133	8.2	7.8	8.0	8.5
Non-Appalachian Georgia	316	345	330	398	8.5	8.5	8.2	8.8
<b>Kentucky</b>	174	190	183	207	7.7	7.9	7.7	8.2
Appalachian Kentucky	30	31	27	27	6.2	6.1	5.6	5.6
Non-Appalachian Kentucky	144	160	156	180	8.1	8.3	8.2	8.8
<b>Maryland</b>	191	201	191	241	6.1	5.8	5.6	6.5
Appalachian Maryland	10	10	11	11	7.3	7.3	7.6	8.1
Non-Appalachian Maryland	182	190	181	230	6.0	5.8	5.5	6.5
<b>Mississippi</b>	88	96	92	102	6.1	6.2	6.0	6.4
Appalachian Mississippi	18	21	19	21	6.1	6.9	6.3	6.4
Non-Appalachian Mississippi	70	75	72	81	6.1	6.1	6.0	6.4
<b>New York</b>	692	730	721	819	6.7	6.6	6.3	6.6
Appalachian New York	25	26	24	23	4.6	4.5	4.4	4.3
Non-Appalachian New York	667	704	697	796	6.8	6.7	6.4	6.7
<b>North Carolina</b>	316	353	336	389	6.5	6.5	6.3	6.6
Appalachian North Carolina	48	51	47	47	5.6	5.5	5.4	5.0
Non-Appalachian North Carolina	268	302	289	342	6.7	6.7	6.4	6.9
<b>Ohio</b>	465	507	469	520	7.0	7.5	7.1	7.4
Appalachian Ohio	53	58	56	57	5.7	6.3	6.2	6.2
Non-Appalachian Ohio	412	449	414	463	7.2	7.7	7.2	7.6
<b>Pennsylvania</b>	487	526	514	579	7.1	7.2	7.1	7.5
Appalachian Pennsylvania	210	222	218	225	6.8	7.0	6.8	6.9
Non-Appalachian Pennsylvania	276	303	295	354	7.3	7.5	7.2	8.0
<b>South Carolina</b>	130	148	140	170	5.8	6.0	5.7	6.2
Appalachian South Carolina	43	48	47	54	7.1	7.3	7.2	7.4
Non-Appalachian South Carolina	87	100	94	116	5.3	5.5	5.2	5.8
<b>Tennessee</b>	300	322	303	338	8.8	8.7	8.3	8.5
Appalachian Tennessee	104	111	101	108	7.4	7.3	6.8	6.9
Non-Appalachian Tennessee	195	211	202	230	9.8	9.7	9.4	9.5
<b>Virginia</b>	257	275	261	309	5.8	5.7	5.4	6.0
Appalachian Virginia	18	19	18	17	4.9	5.0	5.0	4.9
Non-Appalachian Virginia	239	256	243	292	5.9	5.7	5.4	6.0
<b>West Virginia (entire state)</b>	50	54	50	48	5.7	5.9	5.4	5.4

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 34: Percentage of total employment in the Appalachian Region, Wholesale Trade and Transportation, 2017**



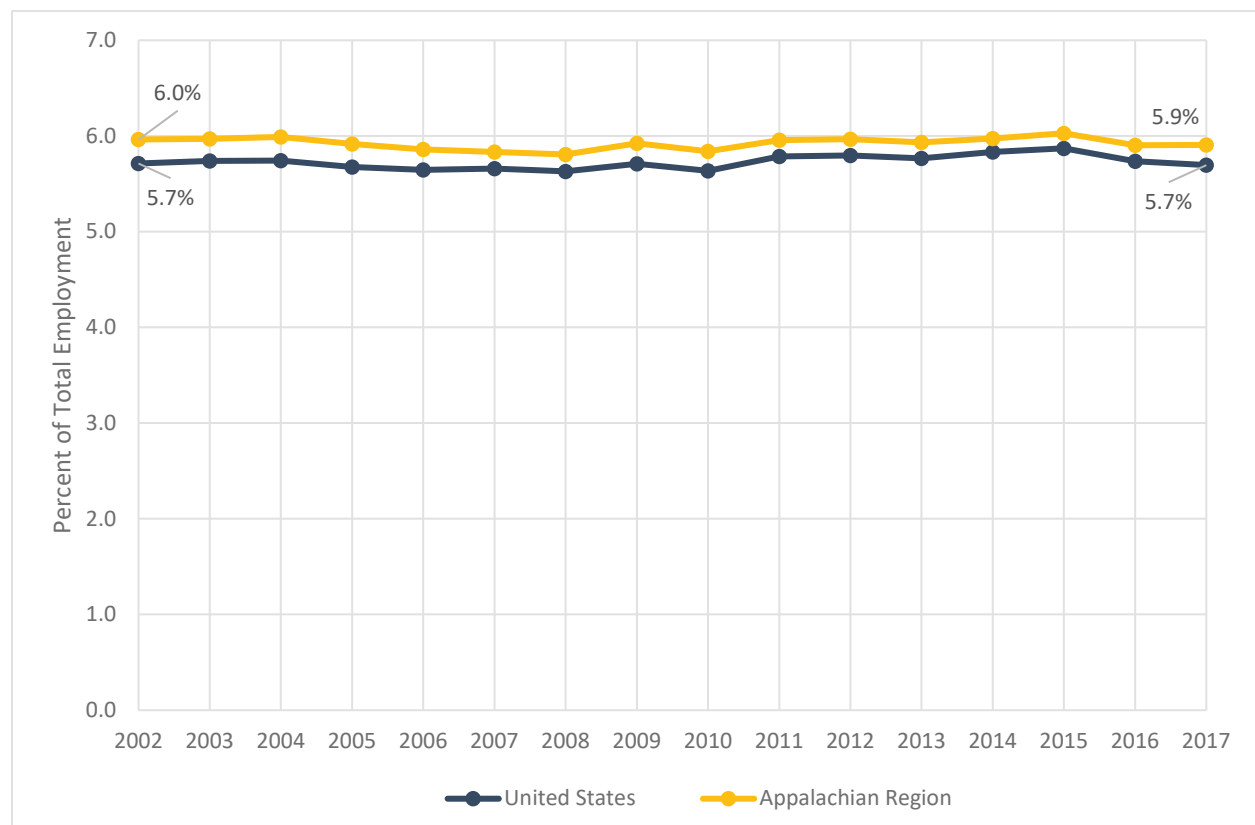
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Personal and Other Services

This is a diverse grouping classified by NAICS code 81, “Other Services (except Public Administration),” which includes establishments that provide services not included elsewhere in the classification system, such as establishments involved with equipment repairs, religious activities, grantmaking, laundry services, personal care services, and pet care services.

As seen in Figure 35, the share of employment in this diverse category remained stable from 2002 to 2017, with similar values for Appalachia and the United States as a whole throughout the entire time period. The Region had an industrial share of 6 percent in 2002, and then 5.9 percent in 2017; the United States had a 5.7 percent share in both years.

**Figure 35: Industrial share, Personal and Other Services, 2002–2017**

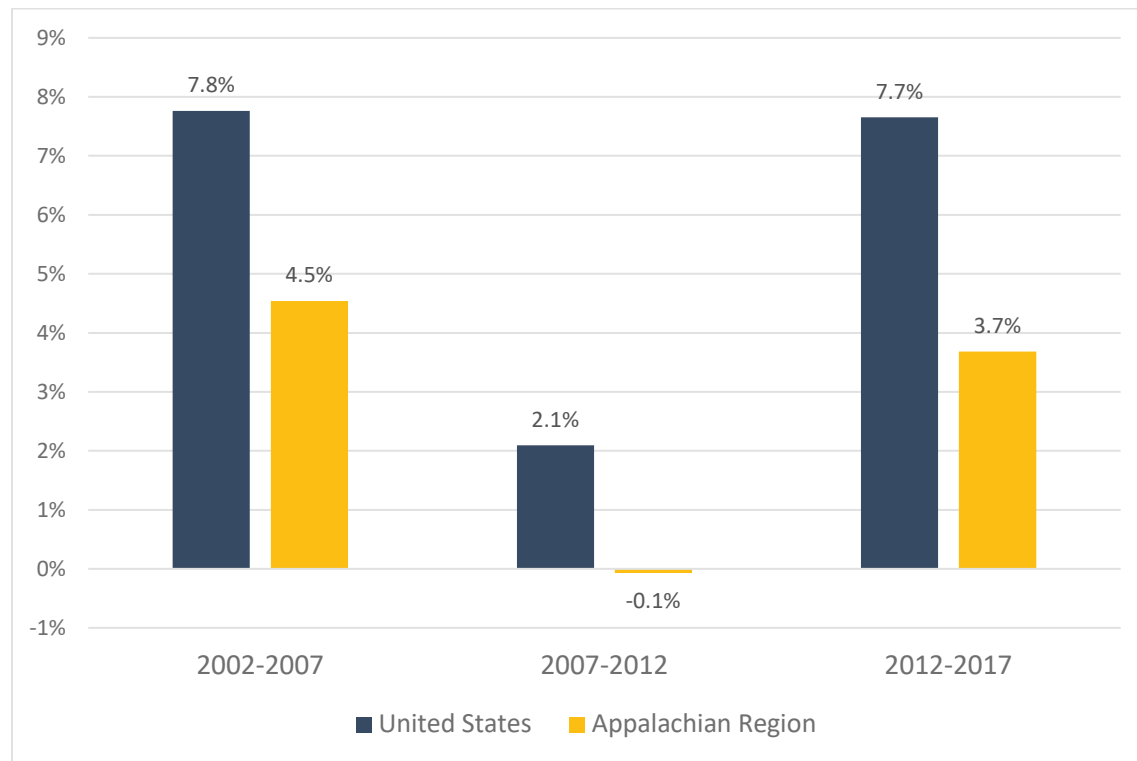


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



Figure 36 shows employment growth in the sector over recent time periods. Growth was faster in the United States than in the Appalachian Region during each of the three time periods, with the largest gap coming in the most recent 2012–2017 period (7.7 percent compared to 3.7 percent).

**Figure 36: Percent change in employment, Personal and Other Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 14 we see that among the subregions, Central and Southern Appalachia had the largest industrial shares for this category in 2017, at 6.3 percent of total employment. Nonmetro areas adjacent to small metros had the largest share based on metro designation, at 6.3 percent of total employment, though the differences across the designations are slight.

The Appalachian portions of Georgia (6.6 percent) and Alabama (6.3 percent) had the largest shares in the Region in 2017. Appalachian Maryland had the smallest share (5.2 percent), with similar numbers found in both Appalachian New York (5.3 percent) and West Virginia (5.3 percent).

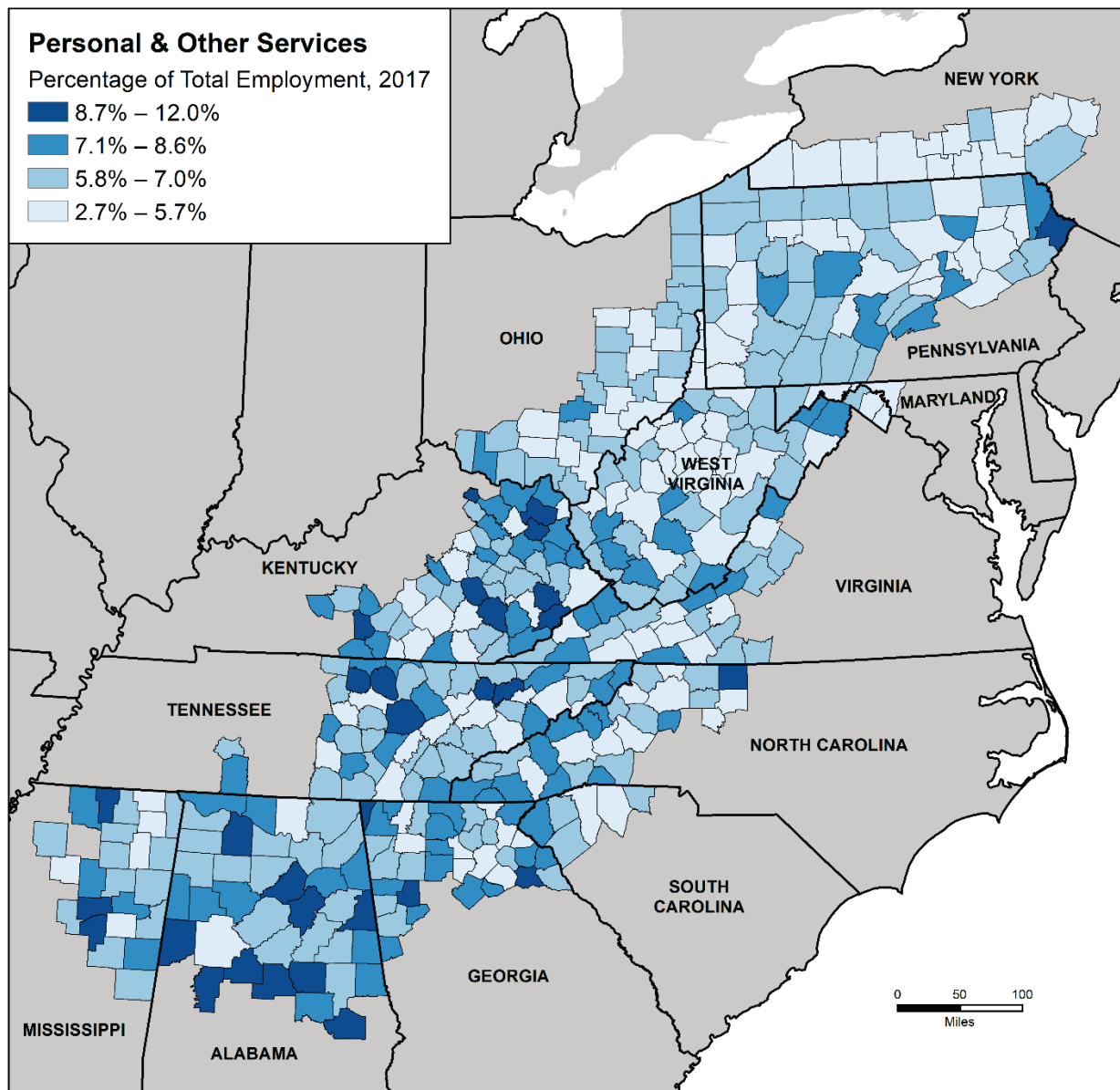
Figure 37 then displays the county-level industrial shares throughout the Region.

**Table 14: Employment and industrial shares, Personal and Other Services, 2002, 2007, 2012, and 2017**

Personal, Other Services	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	9,431	10,162	10,376	11,170	5.7	5.7	5.8	5.7
<b>Appalachian Region</b>	732	765	765	793	6.0	5.8	6.0	5.9
<b>Non-Appalachian U.S.</b>	8,699	9,397	9,611	10,377	5.7	5.6	5.8	5.7
<b>Subregions</b>								
Northern Appalachia	264	262	253	255	6.0	5.8	5.6	5.6
North Central Appalachia	65	66	62	61	6.0	5.7	5.5	5.4
Central Appalachia	46	47	48	47	6.1	6.0	6.2	6.3
South Central Appalachia	142	152	151	157	5.9	5.8	6.1	5.9
Southern Appalachia	214	238	251	273	5.9	5.9	6.4	6.3
<b>County Types</b>								
Large Metros (pop. 1 million +)	177	192	195	210	6.2	6.1	6.2	6.2
Small Metros (pop. <1 million)	313	327	326	337	5.7	5.6	5.7	5.6
Nonmetro, Adjacent to Large Metros	62	64	62	62	6.1	6.0	6.1	6.0
Nonmetro, Adjacent to Small Metros	113	115	113	114	6.4	6.2	6.4	6.3
Rural (nonmetro, not adj. to a metro)	67	67	68	69	5.7	5.6	5.7	5.8
<b>Alabama</b>	151	163	168	172	6.4	6.3	6.7	6.5
Appalachian Alabama	96	102	104	108	6.3	6.1	6.5	6.3
Non-Appalachian Alabama	56	61	64	65	6.6	6.6	7.2	6.9
<b>Georgia</b>	269	314	344	381	5.5	5.7	6.4	6.3
Appalachian Georgia	69	85	91	104	6.0	6.0	6.7	6.6
Non-Appalachian Georgia	200	229	253	276	5.4	5.6	6.3	6.1
<b>Kentucky</b>	122	128	128	132	5.4	5.3	5.4	5.3
Appalachian Kentucky	28	29	30	29	5.8	5.8	6.0	6.1
Non-Appalachian Kentucky	94	99	99	103	5.3	5.2	5.2	5.1
<b>Maryland</b>	185	202	204	216	5.9	5.9	5.9	5.8
Appalachian Maryland	8	8	7	7	6.0	5.6	5.2	5.2
Non-Appalachian Maryland	177	194	197	209	5.9	5.9	6.0	5.9
<b>Mississippi</b>	80	84	90	95	5.5	5.4	5.9	6.0
Appalachian Mississippi	16	17	18	19	5.3	5.4	5.9	5.9
Non-Appalachian Mississippi	65	67	71	76	5.6	5.5	5.9	6.0
<b>New York</b>	584	635	667	700	5.6	5.7	5.8	5.6
Appalachian New York	29	29	27	28	5.2	5.2	5.1	5.3
Non-Appalachian New York	555	605	639	672	5.7	5.8	5.9	5.6
<b>North Carolina</b>	271	303	306	334	5.6	5.6	5.7	5.6
Appalachian North Carolina	51	54	54	56	5.9	5.9	6.2	6.0
Non-Appalachian North Carolina	220	249	252	278	5.5	5.5	5.6	5.6
<b>Ohio</b>	372	366	359	369	5.6	5.4	5.4	5.3
Appalachian Ohio	58	56	55	55	6.2	6.1	6.1	6.0
Non-Appalachian Ohio	315	309	304	314	5.5	5.3	5.3	5.2
<b>Pennsylvania</b>	400	409	408	425	5.8	5.6	5.6	5.5
Appalachian Pennsylvania	188	187	181	182	6.1	5.8	5.7	5.6
Non-Appalachian Pennsylvania	212	222	227	243	5.6	5.5	5.6	5.5
<b>South Carolina</b>	131	142	151	165	5.8	5.7	6.2	6.0
Appalachian South Carolina	33	36	38	42	5.4	5.5	5.9	5.7
Non-Appalachian South Carolina	97	106	113	124	5.9	5.8	6.3	6.1
<b>Tennessee</b>	202	218	231	246	5.9	5.9	6.4	6.1
Appalachian Tennessee	84	90	90	94	5.9	5.9	6.1	6.0
Non-Appalachian Tennessee	118	129	141	152	5.9	5.9	6.5	6.3
<b>Virginia</b>	254	279	289	310	5.8	5.7	5.9	6.0
Appalachian Virginia	21	22	21	21	5.8	5.8	5.8	5.8
Non-Appalachian Virginia	233	257	268	290	5.7	5.7	6.0	6.0
<b>West Virginia (entire state)</b>	52	51	48	47	5.9	5.6	5.2	5.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 37: Percentage of total employment in the Appalachian Region, Personal and Other Services, 2017**



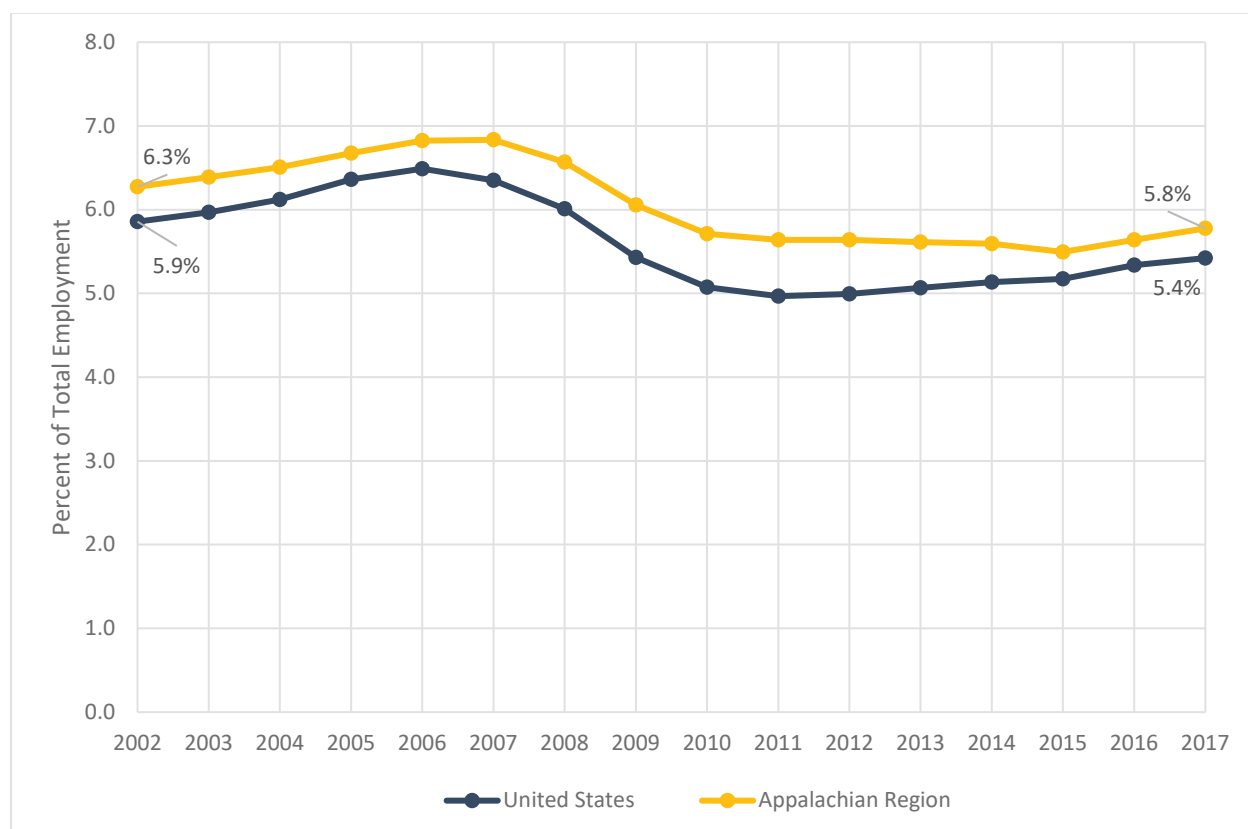
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Construction

This sector includes all establishments involved with the building of new structures, roads, and additions as well as reconstruction and repairs. Construction involving residential and nonresidential structures (e.g., homes and office buildings), as well as heavy construction (e.g., bridges and pipelines) are both included. Establishments related to specialty trade contracting (e.g., plumbing and carpentry) also belong to this category.

Figure 38 shows the changes in Construction's industrial shares over time. For both the Region and the United States as a whole, the industry saw a decline during the Great Recession, and though things have steadied since then—both geographies have seen a slight increase since 2010—industrial shares in 2017 were lower than those in 2002. For Appalachia, the industrial share dropped from 6.3 percent in 2002 to 5.8 percent in 2017; for the United States as a whole, the industrial share fell from 5.9 percent to 5.4 percent over the same time period.

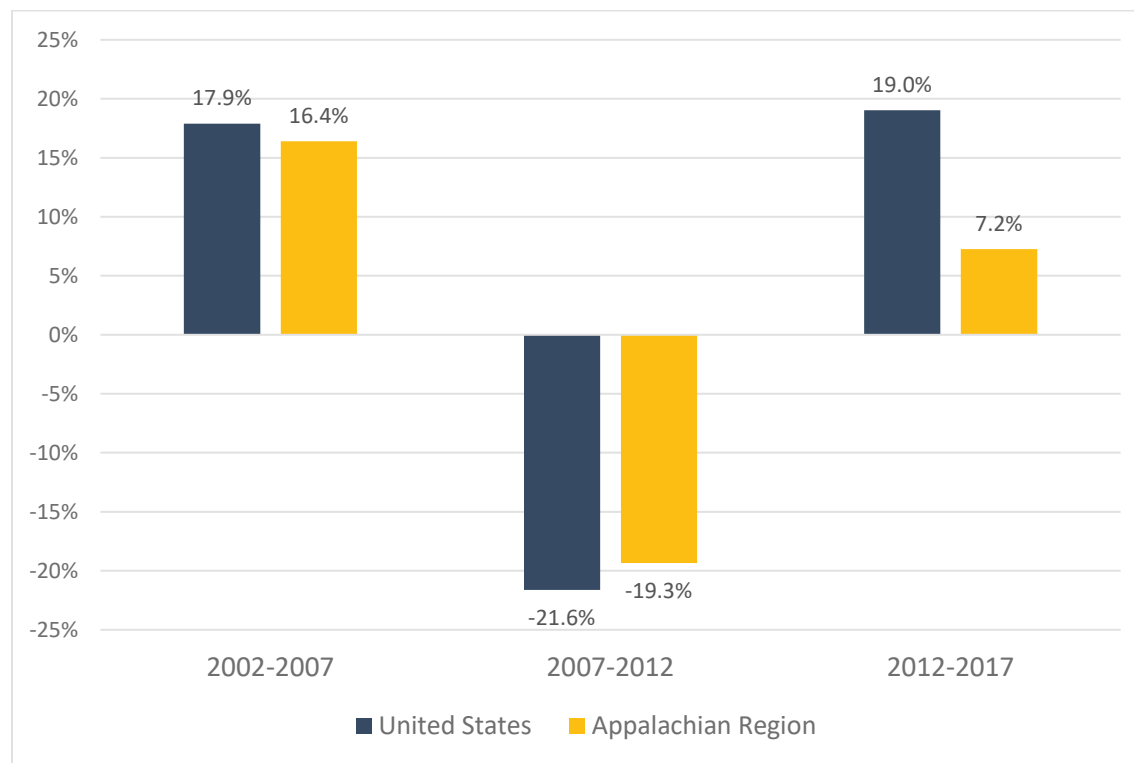
**Figure 38: Industrial share, Construction, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Employment growth in Construction was similar for Appalachia and the country overall during the 2002–2007 period; the subsequent declines in the 2007–2012 period were also comparable. In the most recent period, Construction sector employment growth in the United States overall (19 percent) was greater than in the Appalachian Region (7.2 percent).

**Figure 39: Percent change in employment, Construction, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Among the subregions, Southern (6.2 percent) and South Central Appalachia (5.8 percent) had the largest shares of employment dedicated to Construction in 2017. Based on metro designations, counties in large metro areas had the largest industrial shares in the sector, at 6.6 percent.

For nine of the 12 states in the Region with both Appalachian and non-Appalachian portions, the Appalachian portions had larger shares in their respective states in 2017. The Appalachian portions of Georgia (7.5 percent), North Carolina (6.4 percent), and Ohio (6.4 percent) had the largest shares. Appalachian New York (4.7 percent) and Appalachian Virginia (4.8 percent) had the smallest. Figure 40 then displays the county-level industrial shares throughout the Region.

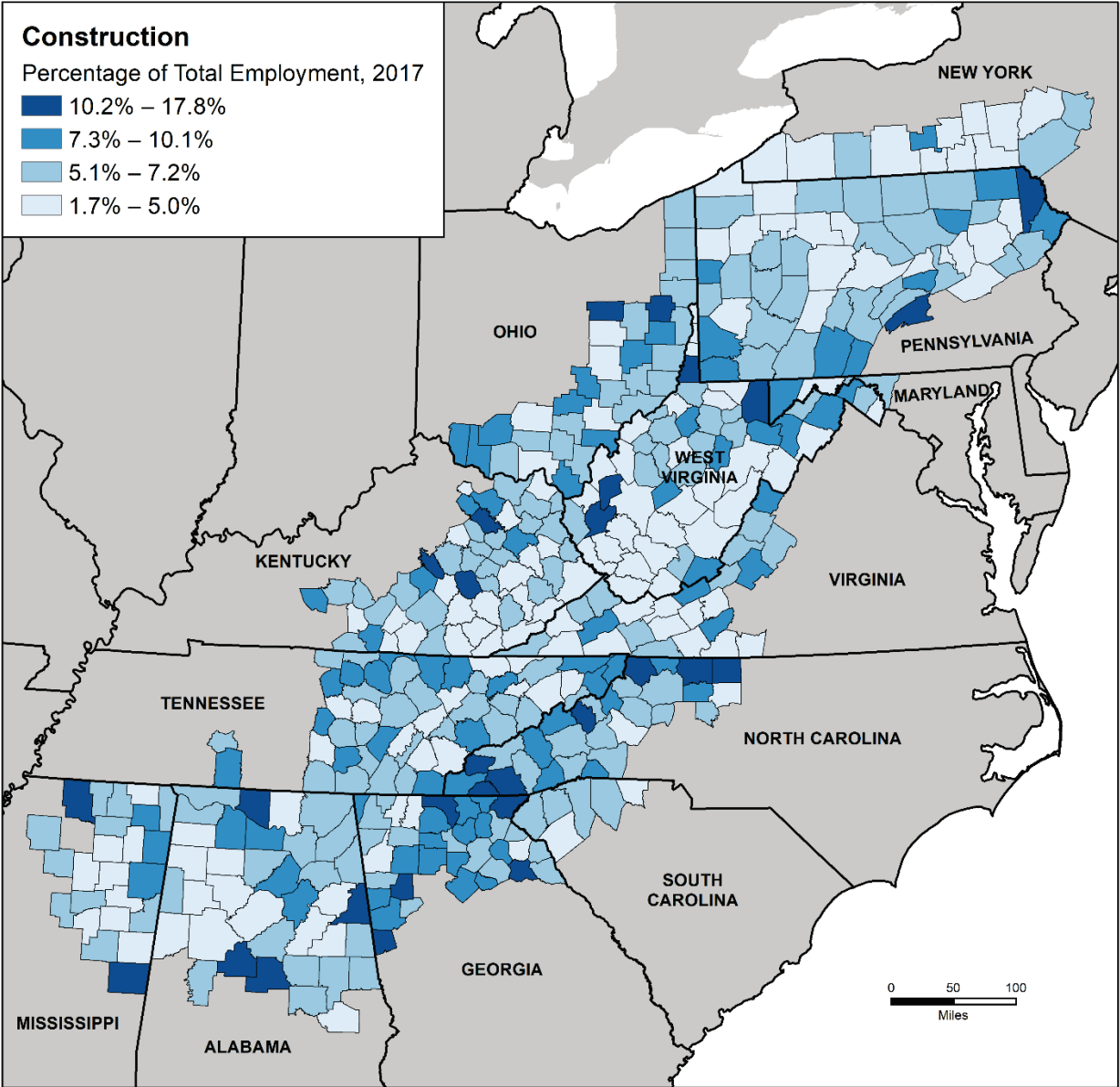
Figure 40 then displays the county-level industrial shares throughout the Region.

**Table 15: Employment and industrial shares, Construction, 2002, 2007, 2012, and 2017**

Construction	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	9,669	11,399	8,935	10,636	5.9	6.3	5.0	5.4
<b>Appalachian Region</b>	770	896	723	775	6.3	6.8	5.6	5.8
<b>Non-Appalachian U.S.</b>	8,899	10,503	8,213	9,861	5.8	6.3	4.9	5.4
<b>Subregions</b>								
Northern Appalachia	238	258	234	247	5.4	5.7	5.2	5.4
North Central Appalachia	68	75	66	63	6.3	6.6	5.8	5.5
Central Appalachia	45	50	44	40	5.9	6.4	5.6	5.4
South Central Appalachia	160	197	144	155	6.6	7.6	5.8	5.8
Southern Appalachia	259	315	237	270	7.2	7.8	6.0	6.2
<b>County Types</b>								
Large Metros (pop. 1 million +)	208	240	194	223	7.3	7.6	6.2	6.6
Small Metros (pop. <1 million)	318	374	299	319	5.8	6.4	5.2	5.3
Nonmetro, Adjacent to Large Metros	60	70	58	60	5.9	6.6	5.7	5.8
Nonmetro, Adjacent to Small Metros	114	131	102	106	6.4	7.1	5.8	5.8
Rural (nonmetro, not adj. to a metro)	70	80	70	68	6.0	6.7	5.9	5.7
<b>Alabama</b>	153	183	137	144	6.5	7.0	5.5	5.4
Appalachian Alabama	100	117	90	94	6.6	7.0	5.6	5.5
Non-Appalachian Alabama	53	67	47	50	6.3	7.1	5.2	5.3
<b>Georgia</b>	302	371	262	323	6.2	6.8	4.9	5.3
Appalachian Georgia	102	131	93	117	8.8	9.3	6.8	7.5
Non-Appalachian Georgia	200	240	170	205	5.4	5.9	4.2	4.6
<b>Kentucky</b>	130	142	118	129	5.7	5.9	4.9	5.1
Appalachian Kentucky	28	31	26	26	5.8	6.1	5.4	5.4
Non-Appalachian Kentucky	102	111	91	103	5.7	5.8	4.8	5.1
<b>Maryland</b>	215	255	206	239	6.8	7.4	6.0	6.5
Appalachian Maryland	9	10	7	7	6.5	7.1	5.3	5.3
Non-Appalachian Maryland	206	245	199	232	6.8	7.4	6.0	6.5
<b>Mississippi</b>	86	105	86	84	5.9	6.9	5.7	5.3
Appalachian Mississippi	17	19	19	17	5.6	6.1	6.2	5.4
Non-Appalachian Mississippi	70	87	67	66	6.0	7.0	5.5	5.2
<b>New York</b>	448	516	471	556	4.3	4.7	4.1	4.5
Appalachian New York	24	27	25	25	4.3	4.7	4.5	4.7
Non-Appalachian New York	424	490	446	531	4.3	4.7	4.1	4.5
<b>North Carolina</b>	328	404	293	345	6.8	7.4	5.5	5.8
Appalachian North Carolina	64	79	53	60	7.4	8.5	6.1	6.4
Non-Appalachian North Carolina	264	325	240	286	6.6	7.2	5.3	5.7
<b>Ohio</b>	352	364	307	347	5.3	5.4	4.7	5.0
Appalachian Ohio	58	60	52	59	6.2	6.5	5.8	6.4
Non-Appalachian Ohio	295	303	256	288	5.2	5.2	4.5	4.7
<b>Pennsylvania</b>	367	412	362	394	5.3	5.7	5.0	5.1
Appalachian Pennsylvania	171	184	169	175	5.5	5.8	5.3	5.4
Non-Appalachian Pennsylvania	196	228	193	219	5.1	5.6	4.7	4.9
<b>South Carolina</b>	155	184	127	158	6.9	7.4	5.2	5.7
Appalachian South Carolina	41	48	34	41	6.8	7.4	5.3	5.6
Non-Appalachian South Carolina	114	136	93	117	7.0	7.4	5.1	5.8
<b>Tennessee</b>	199	247	196	219	5.8	6.7	5.4	5.5
Appalachian Tennessee	90	112	86	90	6.3	7.3	5.8	5.8
Non-Appalachian Tennessee	109	135	110	129	5.5	6.2	5.1	5.3
<b>Virginia</b>	291	343	267	289	6.6	7.0	5.5	5.6
Appalachian Virginia	20	23	18	17	5.6	6.1	5.1	4.8
Non-Appalachian Virginia	270	319	248	271	6.7	7.1	5.5	5.6
<b>West Virginia (entire state)</b>	49	56	50	46	5.6	6.1	5.4	5.1

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 40: Percentage of total employment in the Appalachian Region, Construction, 2017



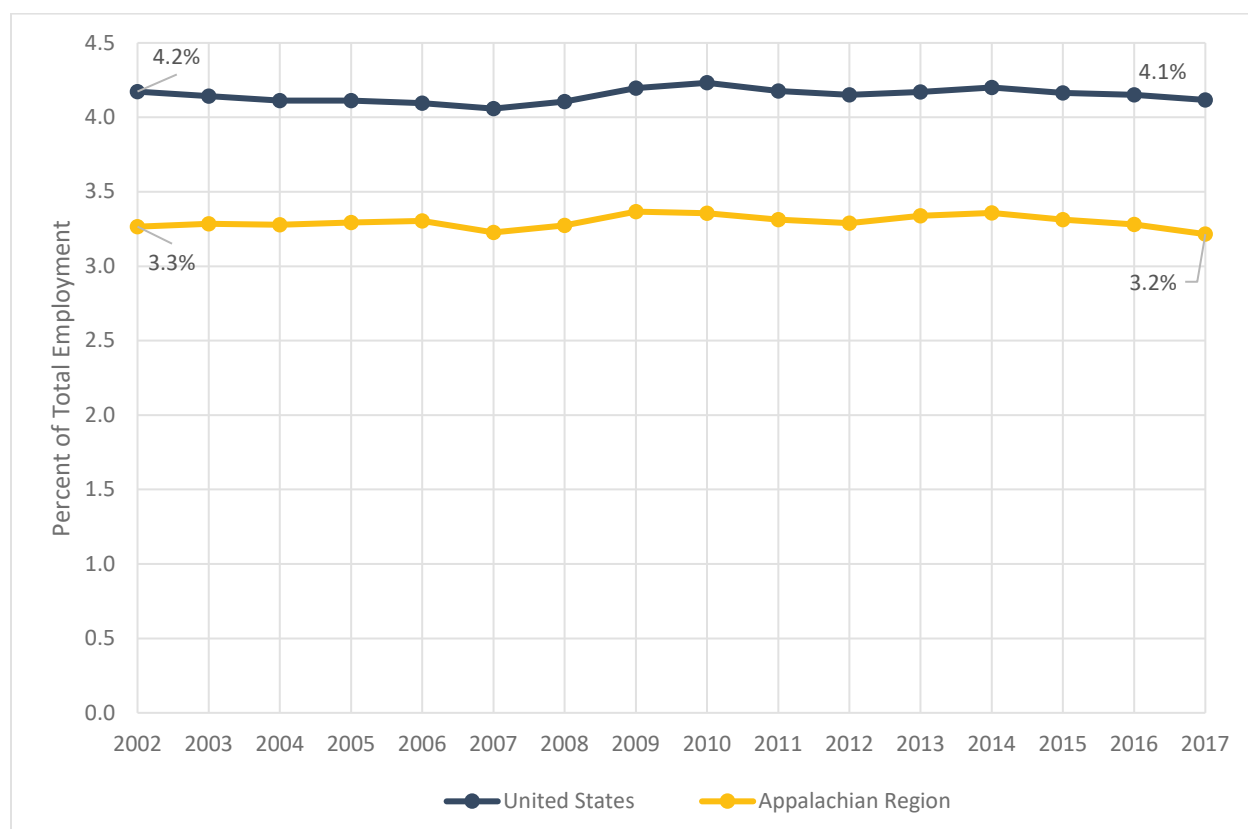
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Education and Information Services

This category includes all private educational institutions, including elementary and high schools, colleges and universities, and professional schools. Computer training services, driving schools, tutoring, and vocational training are also included. The information component of the category includes all establishments engaged in producing and distributing information and data, which includes Internet service providers, telecommunications, data processing, broadcasting, and publishing services.

As seen in Figure 41, little change occurred over the past 15 years in terms of percentage of overall employment dedicated to the sector. Industrial shares in 2017 for both the Region and the United States overall were virtually unchanged from those in 2002; the Region's share decreased from 3.3 percent to 3.2 percent over the time period, and the country's share from 4.2 percent to 4.1 percent.

**Figure 41: Industrial share, Education and Information Services, 2002–2017**

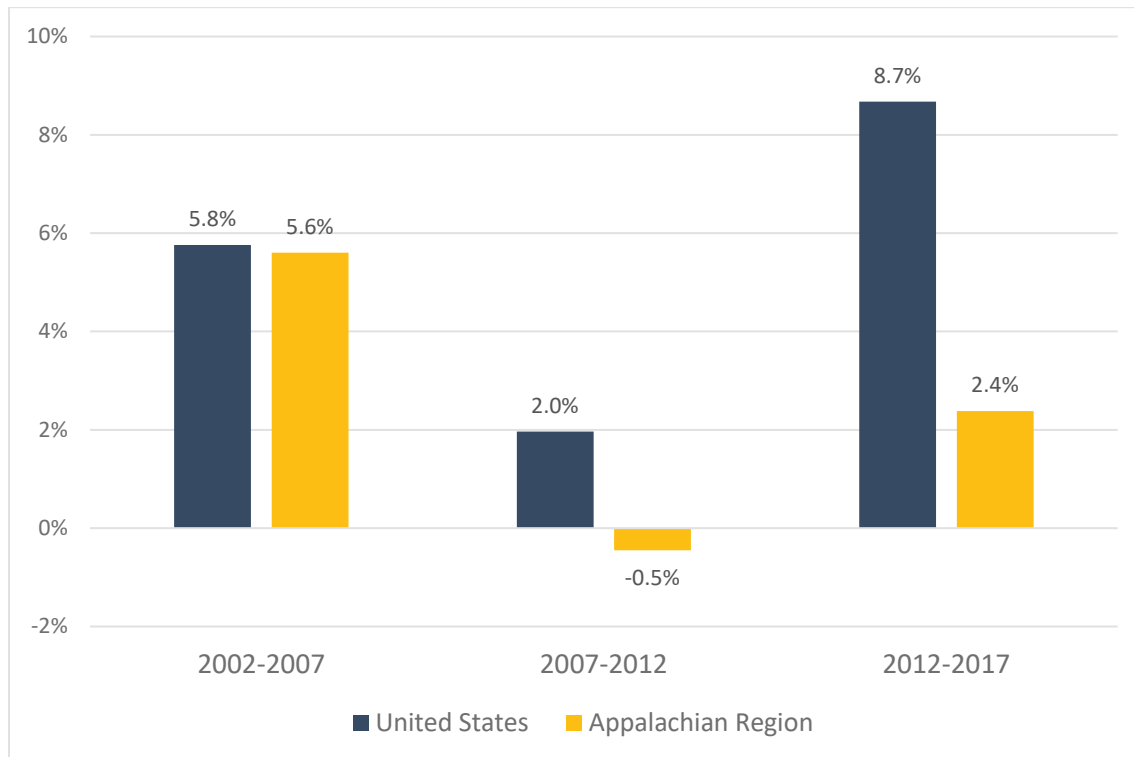


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



Figure 42 shows employment growth in the sector over the three recent time periods. The Region experienced a slight decline during the 2007–2012 period, whereas the country overall saw growth. And then in the most recent time period, the United States saw much faster growth than did Appalachia (8.7 percent compared to 2.4 percent).

**Figure 42: Percent change in employment, Education and Information Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Among the subregions, in 2017, Northern Appalachia had the largest share of its employment engaged in the Education and Information Services sector (4.2 percent), which was higher than the share for the United States as a whole (4.1 percent). North Central (2.5 percent) and Central Appalachia (2.3 percent) had the lowest shares. A pattern exists based on metro designation; as we move from large metro areas (4.3 percent) to rural areas (2.5 percent), industrial shares tend to drop.

Only in South Carolina was the industrial share in the Appalachian portion of the state (3.6 percent) higher than that in the non-Appalachian portion (2.7 percent) in 2017. The Appalachian portions of New York (5.4 percent) and Pennsylvania (4.4 percent) had the highest shares in the Region, though these were still lower than the non-Appalachian portions of the two states (6.6 percent and 5.9 percent, respectively).

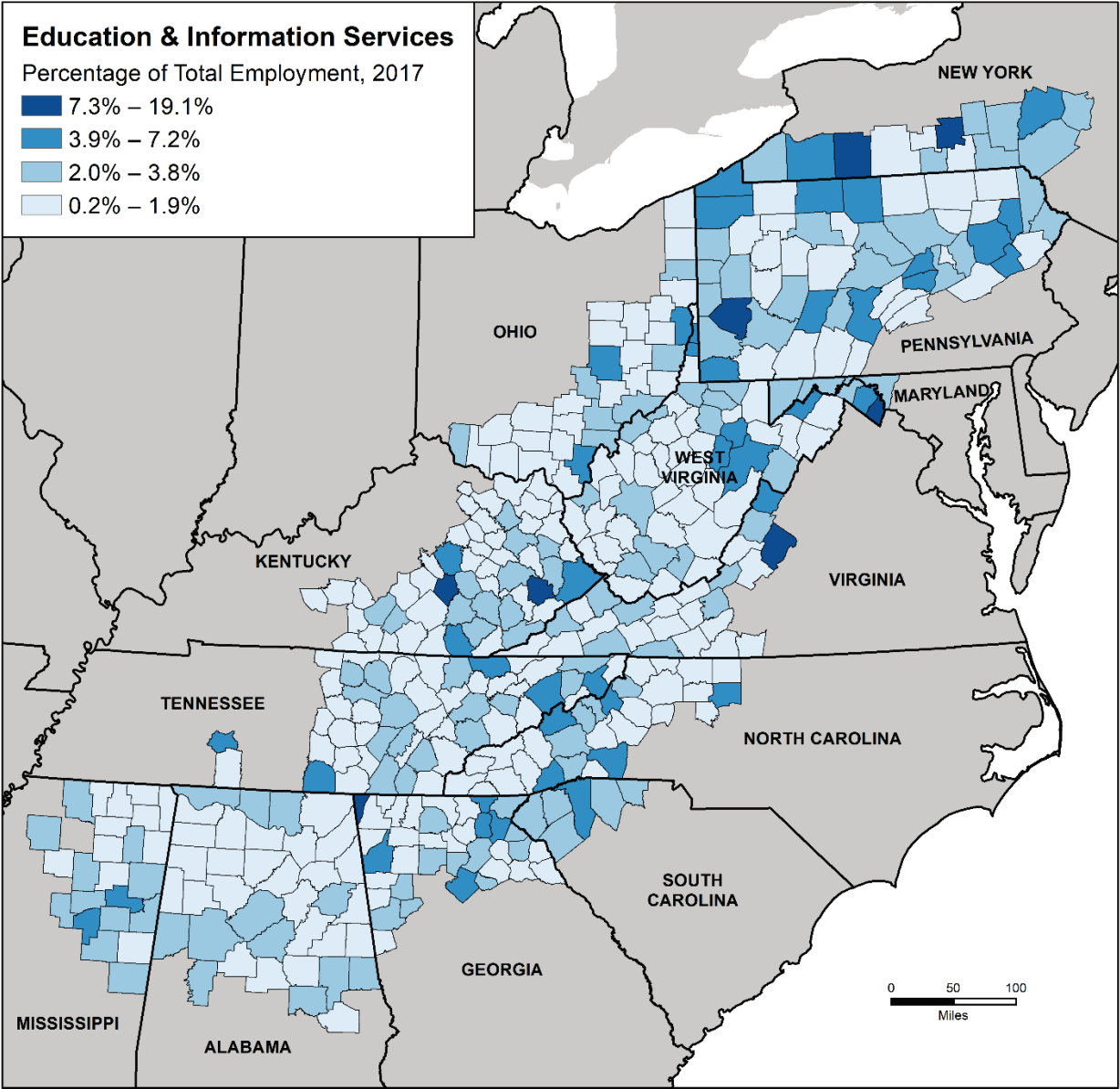
Figure 43 then displays the county-level industrial shares throughout the Region.

**Table 16: Employment and ind. shares, Education Information Services, 2002, 2007, 2012, and 2017**

Education, Information Services	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	6,890	7,287	7,430	8,075	4.2	4.1	4.2	4.1
<b>Appalachian Region</b>	401	423	421	432	3.3	3.2	3.3	3.2
<b>Non-Appalachian U.S.</b>	6,489	6,864	7,009	7,643	4.2	4.1	4.2	4.2
<b>Subregions</b>								
Northern Appalachia	188	192	189	190	4.3	4.2	4.2	4.2
North Central Appalachia	30	30	29	28	2.8	2.6	2.5	2.5
Central Appalachia	18	17	17	17	2.4	2.2	2.2	2.3
South Central Appalachia	64	74	73	74	2.6	2.8	2.9	2.8
Southern Appalachia	101	110	113	122	2.8	2.7	2.9	2.8
<b>County Types</b>								
Large Metros (pop. 1 million +)	130	136	139	147	4.6	4.3	4.4	4.3
Small Metros (pop. <1 million)	182	196	190	190	3.3	3.3	3.3	3.2
Nonmetro, Adjacent to Large Metros	20	21	21	22	2.0	2.0	2.1	2.1
Nonmetro, Adjacent to Small Metros	40	42	42	43	2.3	2.3	2.3	2.4
Rural (nonmetro, not adj. to a metro)	28	28	29	29	2.4	2.4	2.5	2.5
<b>Alabama</b>	64	67	66	69	2.7	2.6	2.7	2.6
Appalachian Alabama	41	42	42	42	2.7	2.5	2.6	2.5
Non-Appalachian Alabama	23	25	25	26	2.7	2.6	2.8	2.8
<b>Georgia</b>	225	226	228	263	4.6	4.1	4.2	4.3
Appalachian Georgia	35	40	42	47	3.0	2.9	3.1	3.0
Non-Appalachian Georgia	190	185	187	215	5.1	4.5	4.6	4.8
<b>Kentucky</b>	67	70	71	69	2.9	2.9	3.0	2.7
Appalachian Kentucky	13	12	12	12	2.6	2.4	2.4	2.5
Non-Appalachian Kentucky	54	58	59	56	3.0	3.0	3.1	2.8
<b>Maryland</b>	139	150	147	157	4.4	4.4	4.3	4.3
Appalachian Maryland	4	4	3	4	2.8	3.1	2.5	2.5
Non-Appalachian Maryland	135	146	144	154	4.5	4.4	4.4	4.3
<b>Mississippi</b>	36	38	41	40	2.5	2.5	2.7	2.5
Appalachian Mississippi	5	6	6	6	1.6	1.9	2.1	2.0
Non-Appalachian Mississippi	31	32	34	34	2.7	2.6	2.8	2.7
<b>New York</b>	671	704	743	808	6.5	6.4	6.5	6.5
Appalachian New York	30	32	31	29	5.4	5.8	5.7	5.4
Non-Appalachian New York	641	672	712	780	6.5	6.4	6.5	6.6
<b>North Carolina</b>	159	191	208	235	3.3	3.5	3.9	4.0
Appalachian North Carolina	25	29	31	29	3.0	3.2	3.5	3.1
Non-Appalachian North Carolina	134	162	177	206	3.4	3.6	3.9	4.1
<b>Ohio</b>	224	240	236	241	3.4	3.5	3.6	3.4
Appalachian Ohio	22	22	21	20	2.4	2.4	2.3	2.1
Non-Appalachian Ohio	203	218	215	221	3.5	3.7	3.8	3.6
<b>Pennsylvania</b>	361	380	384	406	5.2	5.2	5.3	5.3
Appalachian Pennsylvania	137	140	141	144	4.5	4.4	4.4	4.4
Non-Appalachian Pennsylvania	223	240	244	262	5.9	5.9	6.0	5.9
<b>South Carolina</b>	60	68	73	80	2.7	2.7	3.0	2.9
Appalachian South Carolina	20	22	24	26	3.3	3.3	3.7	3.6
Non-Appalachian South Carolina	40	47	49	54	2.4	2.5	2.7	2.7
<b>Tennessee</b>	111	118	123	137	3.2	3.2	3.4	3.4
Appalachian Tennessee	33	39	37	41	2.4	2.6	2.5	2.6
Non-Appalachian Tennessee	77	78	85	96	3.9	3.6	4.0	4.0
<b>Virginia</b>	187	192	184	190	4.2	3.9	3.8	3.7
Appalachian Virginia	9	10	9	9	2.5	2.6	2.5	2.4
Non-Appalachian Virginia	177	182	175	182	4.4	4.0	3.9	3.8
<b>West Virginia (entire state)</b>	26	25	24	23	3.0	2.7	2.6	2.6

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 43: Percentage of total employment in the Appalachian Region, Education and Information Services, 2017



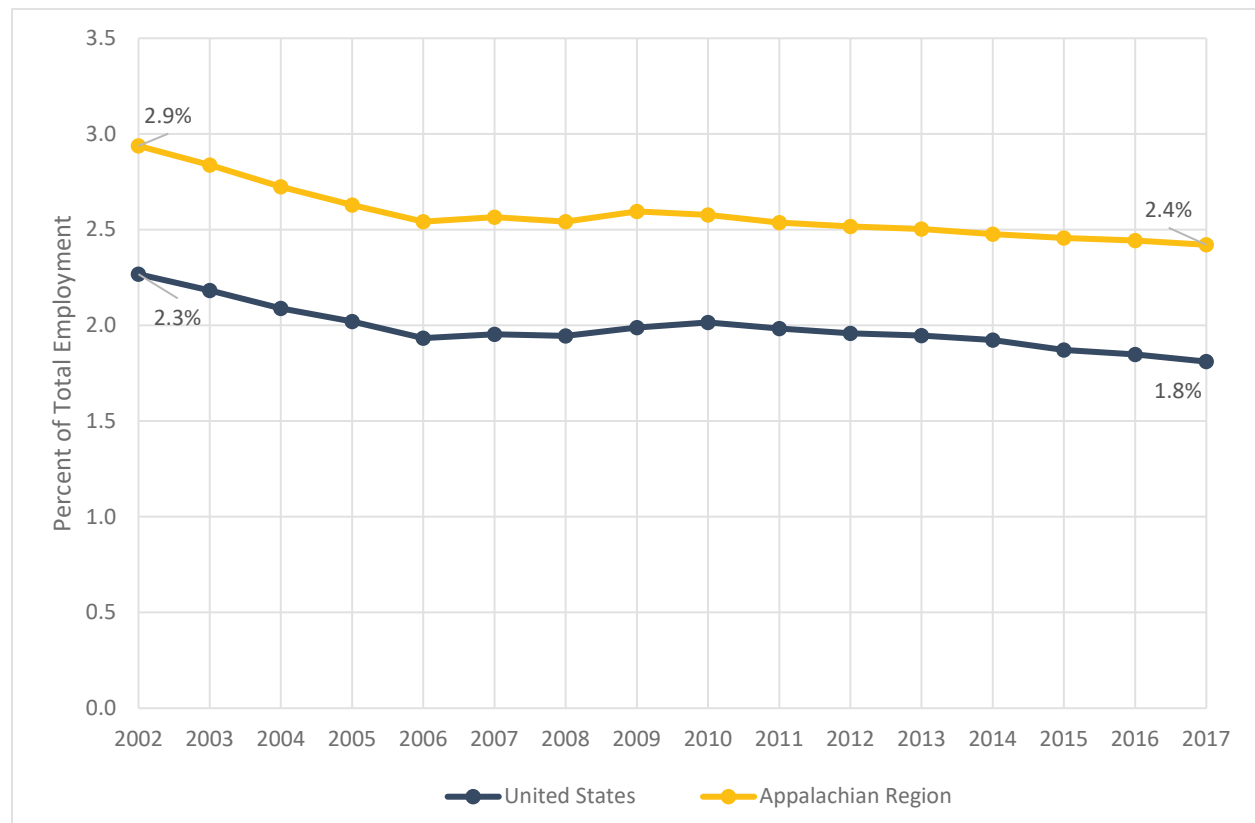
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Farming and Forestry

This industry includes establishments engaged in the production of crops and plants such as farms and greenhouse, as well as those involved in the keeping, grazing, or feeding of animals (e.g., ranches, dairies, and hatcheries). The forestry component includes establishments engaged in the harvesting of timber, as well as all those engaged in harvesting fish and other animals from their natural habitats.

As seen in Figure 44, the sector's industrial shares for the both the Region and the United States as a whole declined between 2002 and 2017; the Region's shares dropped from 2.9 percent to 2.4 percent, and the United States' shares overall from 2.3 to 1.8 percent. The two geographies followed a similar pattern over the past 15 years, with the gap between the two remaining stable.

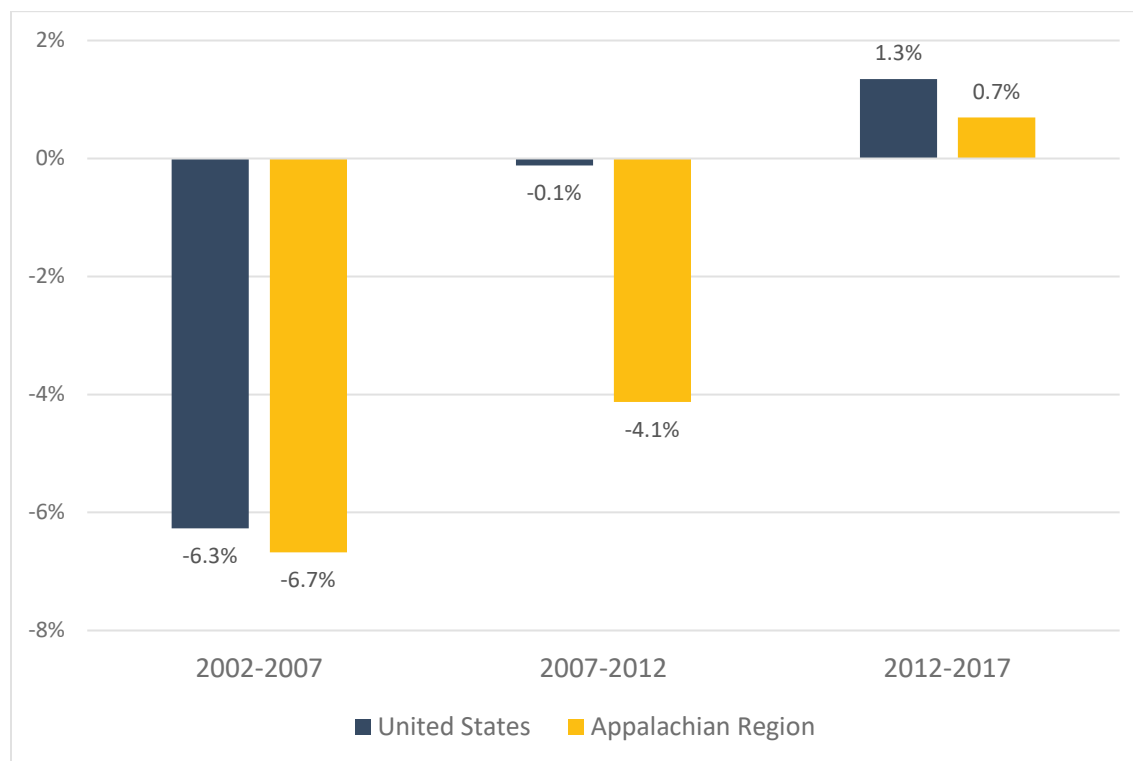
**Figure 44: Industrial share, Farming and Forestry, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 45, we see that Farming and Forestry employment growth in the Region was generally slower than in the nation as a whole; the drops were sharper and the increase was slower. In the most recent 2012–2017 period, sector employment growth in Appalachia was slower than the national level (0.7 percent compared to 1.3 percent).

**Figure 45: Percent change in employment, Farming and Forestry, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 17 we see that the central parts of the Region generally had the largest industrial shares in 2017. Central Appalachia had the highest share among the subregions, at 6.3 percent of total employment, with North Central Appalachia (3.4 percent) having the second highest share. As one might expect, the nonmetro and rural areas of the Region had the largest shares in this industry, ranging from 4.4 percent in nonmetro counties adjacent to large metro areas, to 5.2 percent in both nonmetro counties adjacent to small metro areas as well as rural areas.

Appalachian Kentucky (6.8 percent in 2017) had the largest share of employment dedicated to the sector, followed by the Appalachian portions of Virginia (4.8 percent) and Mississippi (4.6 percent). Only in three states, all of which are found in the Southern subregion, were the industrial shares for Farming and Forestry lower in the Appalachian portions than in the non-Appalachian portions: Alabama, Georgia, and South Carolina.

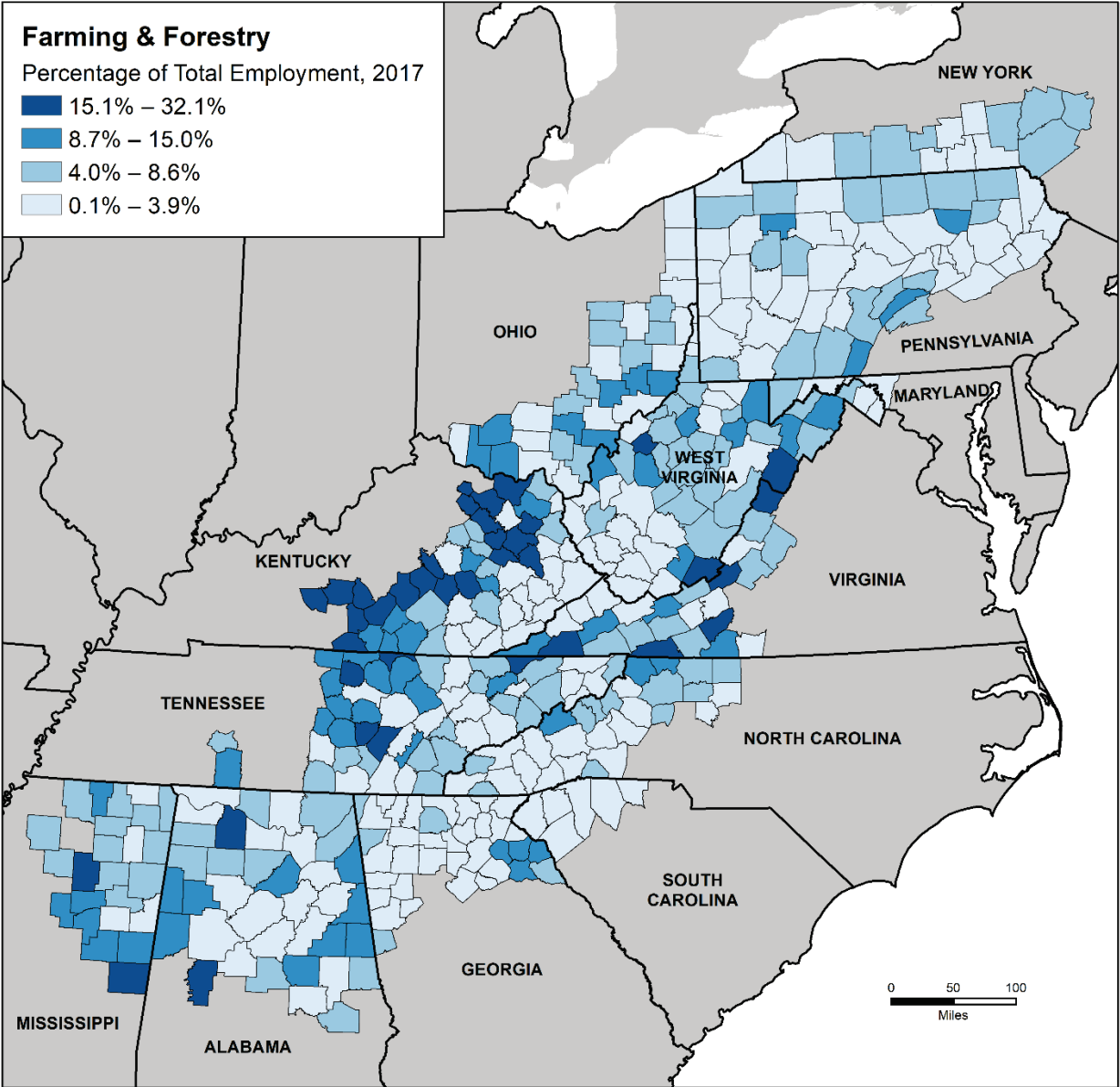
Figure 46 then displays the county-level industrial shares throughout the Region.

**Table 17: Employment and industrial shares, Farming and Forestry, 2002, 2007, 2012, and 2017**

Farming, Forestry	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	3,743	3,509	3,504	3,552	2.3	2.0	2.0	1.8
<b>Appalachian Region</b>	361	337	323	325	2.9	2.6	2.5	2.4
<b>Non-Appalachian U.S.</b>	3,383	3,172	3,182	3,227	2.2	1.9	1.9	1.8
<b>Subregions</b>								
Northern Appalachia	96	90	90	92	2.2	2.0	2.0	2.0
North Central Appalachia	41	41	40	39	3.8	3.6	3.5	3.4
Central Appalachia	55	49	47	47	7.2	6.2	6.1	6.3
South Central Appalachia	85	75	69	68	3.5	2.9	2.8	2.6
Southern Appalachia	84	81	77	79	2.3	2.0	2.0	1.8
<b>County Types</b>								
Large Metros (pop. 1 million +)	33	30	28	29	1.1	1.0	0.9	0.8
Small Metros (pop. <1 million)	106	99	93	94	1.9	1.7	1.6	1.6
Nonmetro, Adjacent to Large Metros	51	48	45	45	5.1	4.5	4.5	4.4
Nonmetro, Adjacent to Small Metros	102	96	94	95	5.7	5.2	5.3	5.2
Rural (nonmetro, not adj. to a metro)	69	63	62	62	5.9	5.3	5.3	5.2
<b>Alabama</b>	68	66	61	64	2.9	2.5	2.4	2.4
Appalachian Alabama	39	39	35	37	2.6	2.3	2.2	2.2
Non-Appalachian Alabama	29	27	26	27	3.4	2.9	2.9	2.9
<b>Georgia</b>	83	78	76	82	1.7	1.4	1.4	1.3
Appalachian Georgia	21	20	19	20	1.8	1.4	1.4	1.3
Non-Appalachian Georgia	62	58	57	62	1.7	1.4	1.4	1.4
<b>Kentucky</b>	114	102	97	98	5.0	4.2	4.1	3.9
Appalachian Kentucky	38	34	33	33	7.8	6.8	6.8	6.8
Non-Appalachian Kentucky	76	69	64	65	4.3	3.6	3.4	3.2
<b>Maryland</b>	26	22	23	24	0.8	0.7	0.7	0.7
Appalachian Maryland	3	3	3	3	2.0	1.8	1.8	1.9
Non-Appalachian Maryland	23	20	21	22	0.8	0.6	0.6	0.6
<b>Mississippi</b>	64	59	55	55	4.4	3.8	3.6	3.5
Appalachian Mississippi	16	15	15	15	5.3	5.0	4.8	4.6
Non-Appalachian Mississippi	48	43	40	41	4.1	3.5	3.3	3.2
<b>New York</b>	73	64	66	69	0.7	0.6	0.6	0.6
Appalachian New York	19	17	16	17	3.5	2.9	2.9	3.1
Non-Appalachian New York	54	47	50	52	0.5	0.4	0.5	0.4
<b>North Carolina</b>	101	90	87	91	2.1	1.6	1.6	1.5
Appalachian North Carolina	25	23	22	22	2.9	2.5	2.5	2.3
Non-Appalachian North Carolina	77	67	65	69	1.9	1.5	1.4	1.4
<b>Ohio</b>	101	96	101	99	1.5	1.4	1.5	1.4
Appalachian Ohio	33	31	33	33	3.5	3.3	3.7	3.6
Non-Appalachian Ohio	68	65	68	66	1.2	1.1	1.2	1.1
<b>Pennsylvania</b>	97	93	96	99	1.4	1.3	1.3	1.3
Appalachian Pennsylvania	57	56	54	56	1.9	1.7	1.7	1.7
Non-Appalachian Pennsylvania	40	37	42	44	1.1	0.9	1.0	1.0
<b>South Carolina</b>	41	39	39	42	1.8	1.6	1.6	1.5
Appalachian South Carolina	8	7	7	7	1.3	1.1	1.1	1.0
Non-Appalachian South Carolina	33	31	32	35	2.0	1.7	1.8	1.7
<b>Tennessee</b>	105	92	83	82	3.1	2.5	2.3	2.0
Appalachian Tennessee	56	49	43	43	3.9	3.2	2.9	2.7
Non-Appalachian Tennessee	50	44	39	40	2.5	2.0	1.8	1.6
<b>Virginia</b>	71	63	64	63	1.6	1.3	1.3	1.2
Appalachian Virginia	21	18	17	17	5.6	4.7	4.8	4.8
Non-Appalachian Virginia	50	45	46	46	1.2	1.0	1.0	0.9
<b>West Virginia (entire state)</b>	26	27	24	24	3.0	2.9	2.7	2.7

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 46: Percentage of total employment in the Appalachian Region, Farming and Forestry, 2017



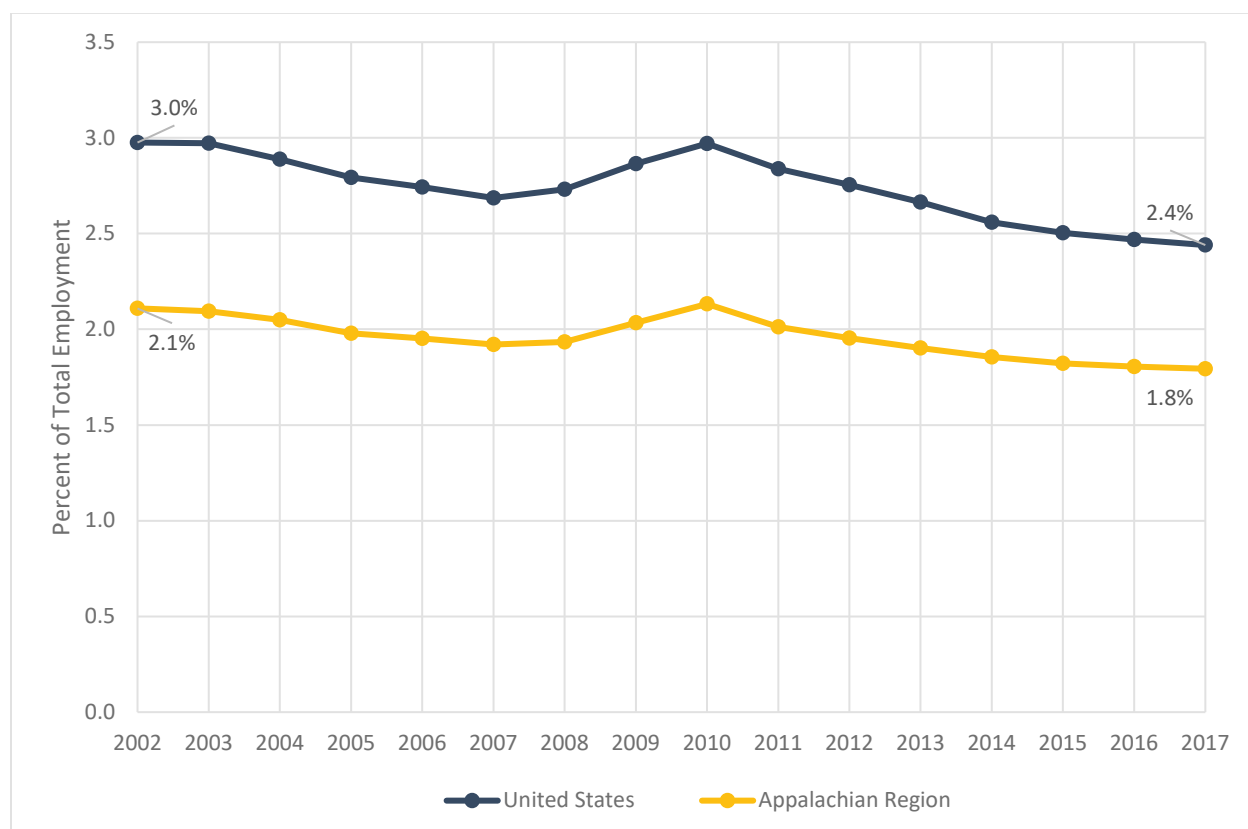
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Federal Government and Military

This category includes all employees of the federal government, regardless of establishment classification, meaning that this sector represents a wide range of establishments: legislative bodies, correctional institutions, public assistance services, the U.S. Postal Service, and air traffic controllers, among many others. All military personnel are included in this category as well, with personnel deployed abroad being counted in their home base or port.

As seen in Figure 47, industrial shares for this sector dropped from 2002 to 2017 for both the Region and the United States as a whole. In Appalachia, the industry accounted for 2.1 percent of total employment in 2002, but just 1.8 percent in 2017. In the country overall, the industrial share dropped from 3 percent to 2.4 percent over the same time period. As one might expect, Federal Government and Military's share of total employment increased over the course of the Great Recession, as the nature of the category means that it is largely removed from the cyclical nature of the overall economy.

**Figure 47: Industrial share, Federal Government and Military, 2002–2017**

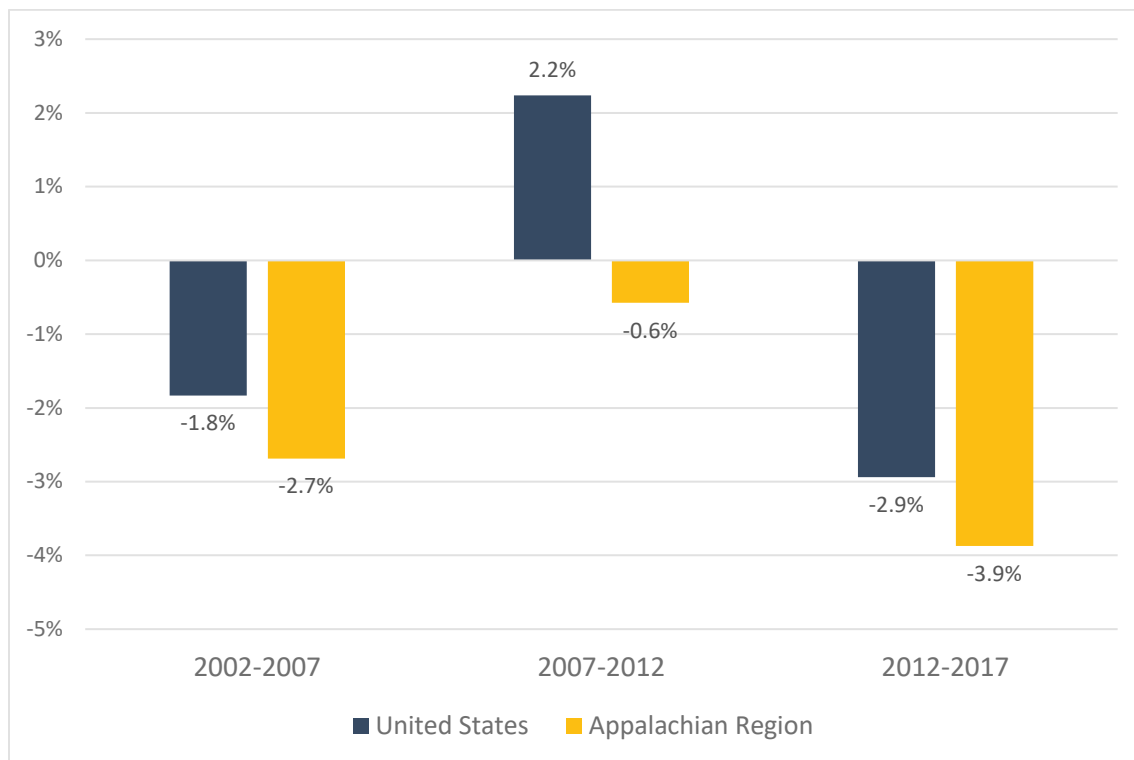


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



In Figure 48, we see that employment in the sector declined during each of the three time periods in the Appalachian Region. The United States as a whole saw declines during the 2002–2007 and 2012–2017 periods, though the decreases were not as steep as those which took place in the Region. And while the country overall experienced growth of 2.2 percent during the 2007–2012 period, the Region saw a decline of 0.6 percent.

**Figure 48: Percent change in employment, Federal Government and Military, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Among the subregions, North Central (3.0 percent) and Central Appalachia (2.1 percent) had the largest industrial shares for this sector in 2017. Rural areas had the largest industrial share in the Region, at 2.1 percent, though the differences based on metro designation are small.

In not one of the Region’s 12 states with both Appalachian and non-Appalachian portions was the industrial share larger in the Appalachian portion than in the non-Appalachian portion, and only in Alabama were the two equal (3.1 percent). West Virginia, the only state entirely within the Region, had the largest industrial share, with 3.7 percent of its overall employment in 2017 classified as being part of the Federal Government and Military.

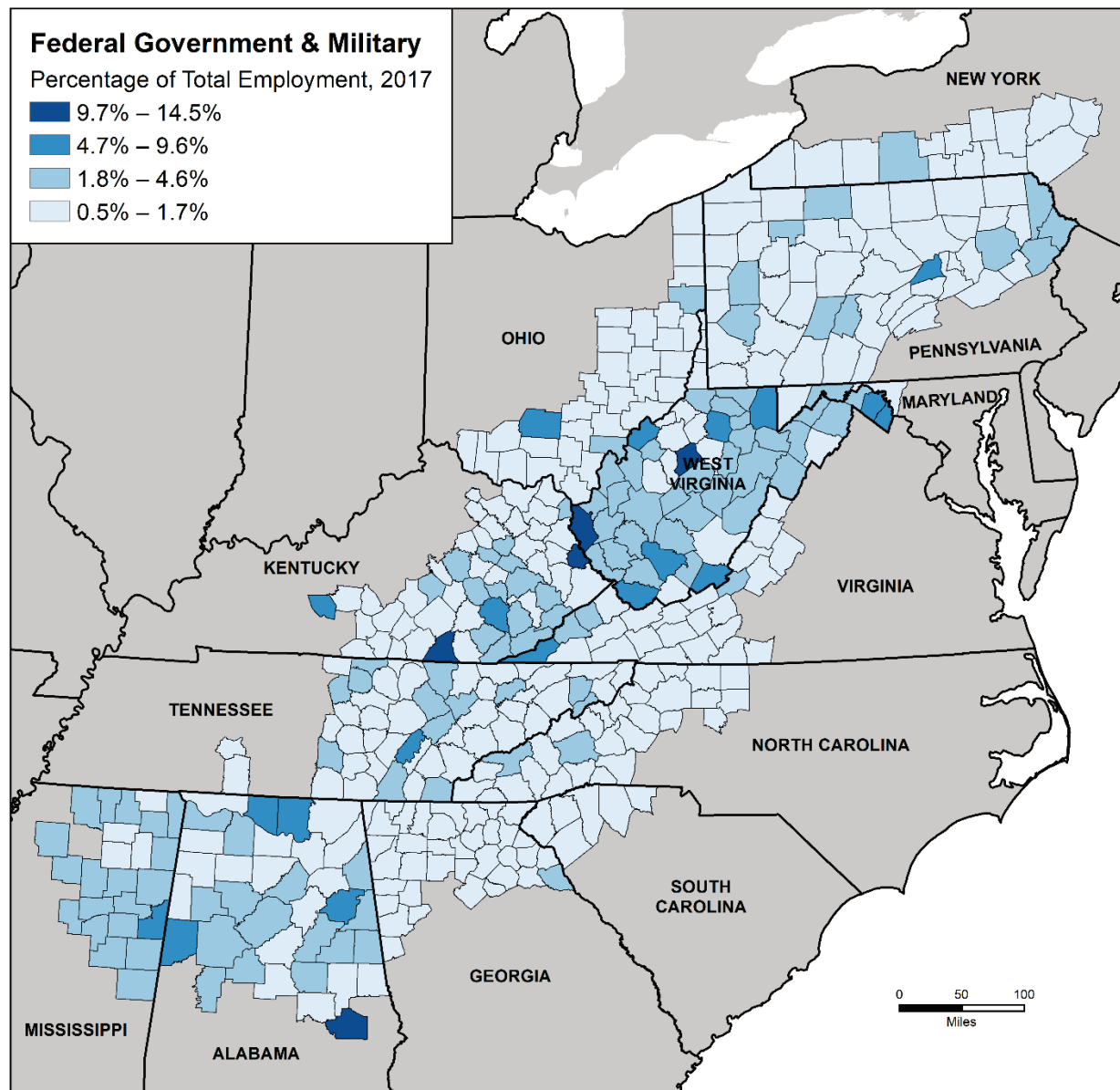
Figure 49 then displays the county-level industrial shares throughout the Region.

**Table 18: Employment and ind. shares, Federal Government and Military, 2002, 2007, 2012, and 2017**

Federal Government, Military	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	4,913	4,823	4,931	4,786	3.0	2.7	2.8	2.4
<b>Appalachian Region</b>	259	252	250	241	2.1	1.9	2.0	1.8
<b>Non-Appalachian U.S.</b>	4,654	4,571	4,681	4,545	3.0	2.7	2.8	2.5
<b>Subregions</b>								
Northern Appalachia	78	73	69	67	1.8	1.6	1.5	1.5
North Central Appalachia	34	34	34	34	3.1	3.0	3.0	3.0
Central Appalachia	17	17	17	16	2.2	2.1	2.2	2.1
South Central Appalachia	43	40	42	39	1.8	1.5	1.7	1.5
Southern Appalachia	88	88	88	84	2.4	2.2	2.2	1.9
<b>County Types</b>								
Large Metros (pop. 1 million +)	57	55	52	53	2.0	1.7	1.7	1.6
Small Metros (pop. <1 million)	126	125	128	121	2.3	2.1	2.2	2.0
Nonmetro, Adjacent to Large Metros	17	16	16	15	1.7	1.5	1.5	1.5
Nonmetro, Adjacent to Small Metros	32	30	30	27	1.8	1.6	1.7	1.5
Rural (nonmetro, not adj. to a metro)	26	25	25	24	2.3	2.1	2.2	2.1
<b>Alabama</b>	88	88	87	82	3.7	3.4	3.5	3.1
Appalachian Alabama	55	56	57	53	3.6	3.4	3.5	3.1
Non-Appalachian Alabama	34	32	30	29	4.0	3.4	3.4	3.1
<b>Georgia</b>	193	193	202	192	4.0	3.5	3.7	3.2
Appalachian Georgia	16	16	15	16	1.4	1.2	1.1	1.0
Non-Appalachian Georgia	177	176	187	176	4.8	4.3	4.6	3.9
<b>Kentucky</b>	85	88	95	81	3.7	3.6	4.0	3.2
Appalachian Kentucky	9	10	10	9	1.9	2.0	2.0	1.9
Non-Appalachian Kentucky	75	78	85	72	4.2	4.1	4.5	3.5
<b>Maryland</b>	210	203	225	226	6.7	5.9	6.6	6.1
Appalachian Maryland	2	2	2	2	1.6	1.4	1.5	1.4
Non-Appalachian Maryland	208	201	223	224	6.9	6.1	6.8	6.3
<b>Mississippi</b>	61	56	56	53	4.2	3.7	3.7	3.3
Appalachian Mississippi	9	8	8	8	2.9	2.6	2.6	2.4
Non-Appalachian Mississippi	52	48	48	45	4.5	3.9	4.0	3.5
<b>New York</b>	195	184	179	172	1.9	1.7	1.6	1.4
Appalachian New York	6	6	5	5	1.2	1.0	1.0	0.9
Non-Appalachian New York	189	178	174	167	1.9	1.7	1.6	1.4
<b>North Carolina</b>	183	193	210	202	3.8	3.6	3.9	3.4
Appalachian North Carolina	11	11	12	11	1.3	1.2	1.4	1.2
Non-Appalachian North Carolina	172	183	198	191	4.3	4.1	4.4	3.8
<b>Ohio</b>	120	112	115	114	1.8	1.6	1.7	1.6
Appalachian Ohio	13	12	12	12	1.5	1.3	1.4	1.3
Non-Appalachian Ohio	106	99	102	102	1.9	1.7	1.8	1.7
<b>Pennsylvania</b>	152	143	137	133	2.2	2.0	1.9	1.7
Appalachian Pennsylvania	60	57	54	52	2.0	1.8	1.7	1.6
Non-Appalachian Pennsylvania	91	86	83	80	2.4	2.1	2.0	1.8
<b>South Carolina</b>	85	83	87	87	3.8	3.4	3.6	3.1
Appalachian South Carolina	8	8	8	8	1.4	1.2	1.2	1.1
Non-Appalachian South Carolina	77	76	79	78	4.7	4.1	4.4	3.9
<b>Tennessee</b>	77	73	74	70	2.3	2.0	2.0	1.8
Appalachian Tennessee	30	29	29	27	2.1	1.9	2.0	1.7
Non-Appalachian Tennessee	47	44	45	43	2.4	2.0	2.1	1.8
<b>Virginia</b>	333	334	336	335	7.5	6.9	6.9	6.4
Appalachian Virginia	6	5	5	5	1.6	1.4	1.3	1.3
Non-Appalachian Virginia	327	329	331	330	8.1	7.3	7.4	6.8
<b>West Virginia (entire state)</b>	32	32	33	33	3.7	3.5	3.6	3.7

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 49: Percentage of total employment in the Appalachian Region, Federal Government and Military, 2017**



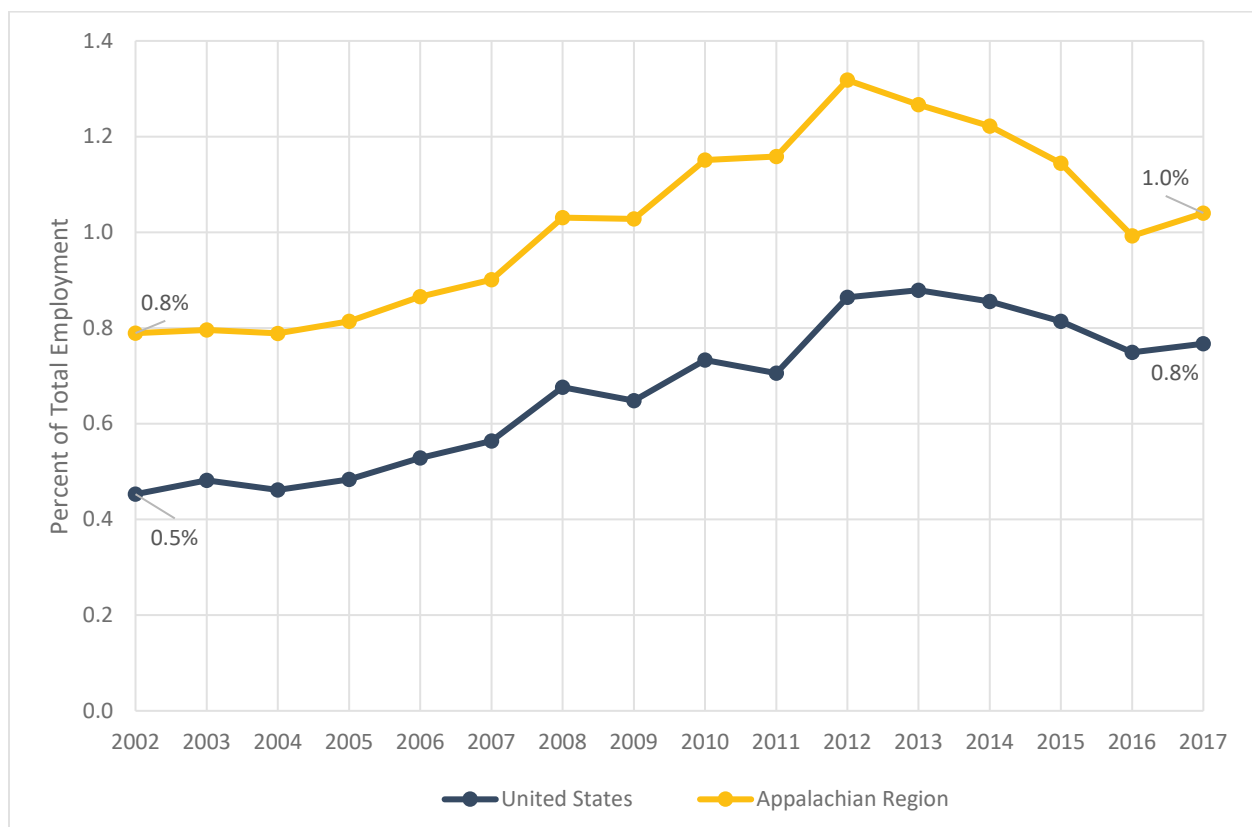
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Coal, Gas, and Other Mining

This category includes all establishments engaged in the extraction of mineral solids (e.g., coal), liquid minerals, and gases (e.g., natural gas), and includes quarrying, well operations, and beneficiating. Also included are establishments engaged in preparation activities that typically take place at the mine site.

Figure 50 indicates that there was a slight increase in industrial shares between 2002 and 2017, with both the Region and the United States as a whole following the same general trend: an increase from 2002 to 2012; a decline from 2012 to 2016, and then a slight uptick from 2016 to 2017. Appalachia's industrial share in the sector was 0.8 percent in 2002, which has since risen to 1 percent in 2017; for the United States as a whole, the sector's industrial share went from 0.5 percent in 2002 to 0.8 percent in 2017.

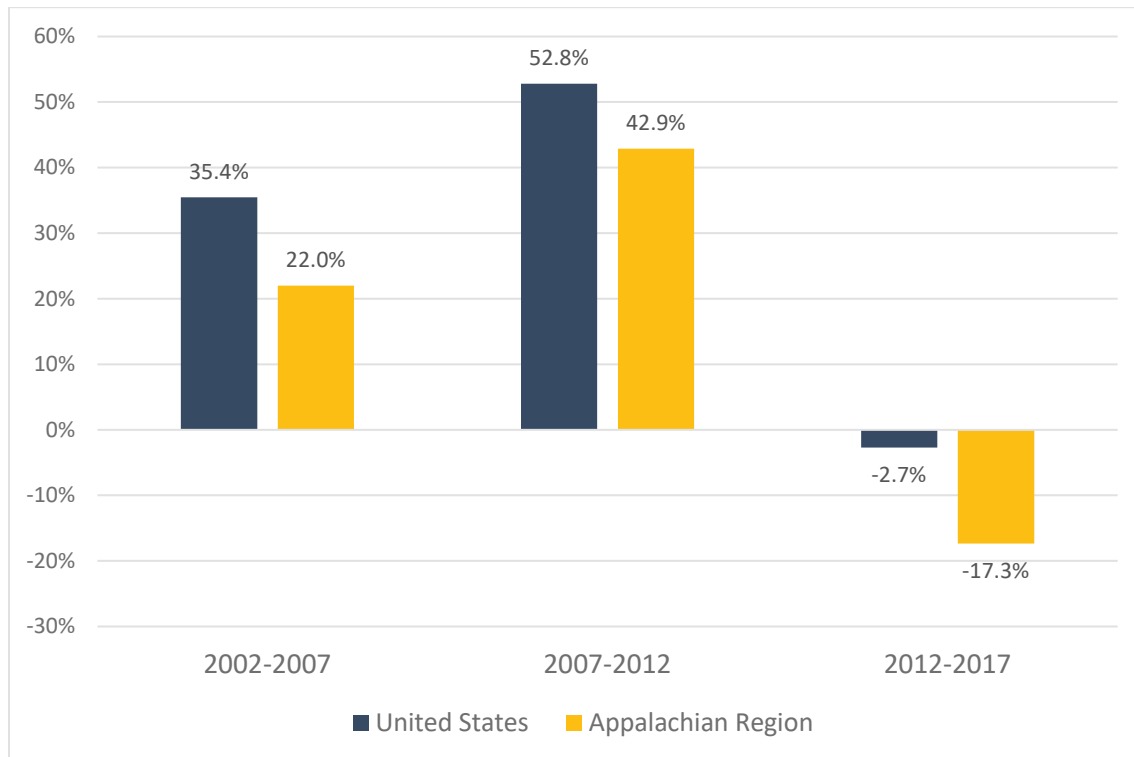
**Figure 50: Industrial share, Coal, Gas, and Other Mining, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 51, we see that changes in this industry’s employment have been significant in recent years. In the 2002–2007 and 2007–2012 periods, the country as a whole saw faster growth than the Appalachian Region. However, in the most recent period, from 2012 to 2017, both the United States and the Region saw declines, at 2.7 percent and 17.3 percent, respectively.

**Figure 51: Percent change in employment, Coal, Gas, and Other Mining, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 19 we see clear patterns at the subregion level, with Central (3 percent) and North Central Appalachia (2.8 percent) having the highest industrial shares in the Region in 2017. Meanwhile, South Central and Southern Appalachia (0.3 percent in both) had much lower shares of total employment engaged in the industry. We also see a clear pattern based on metro status: as we move away from large metro areas and into rural areas, industrial shares in Coal, Gas, and Other Mining steadily increased, from 0.8 percent of total employment to 2.5 percent.

Throughout the Region, in each of the states, the industrial shares in the Appalachian portions either matched or exceeded those in the non-Appalachian portions in 2017. West Virginia had the largest industrial share in the Region, with 4 percent of its total employment engaged in the sector. The Appalachian portions of Kentucky (2.2 percent) and Ohio (1.8 percent) ranked second and third, respectively.

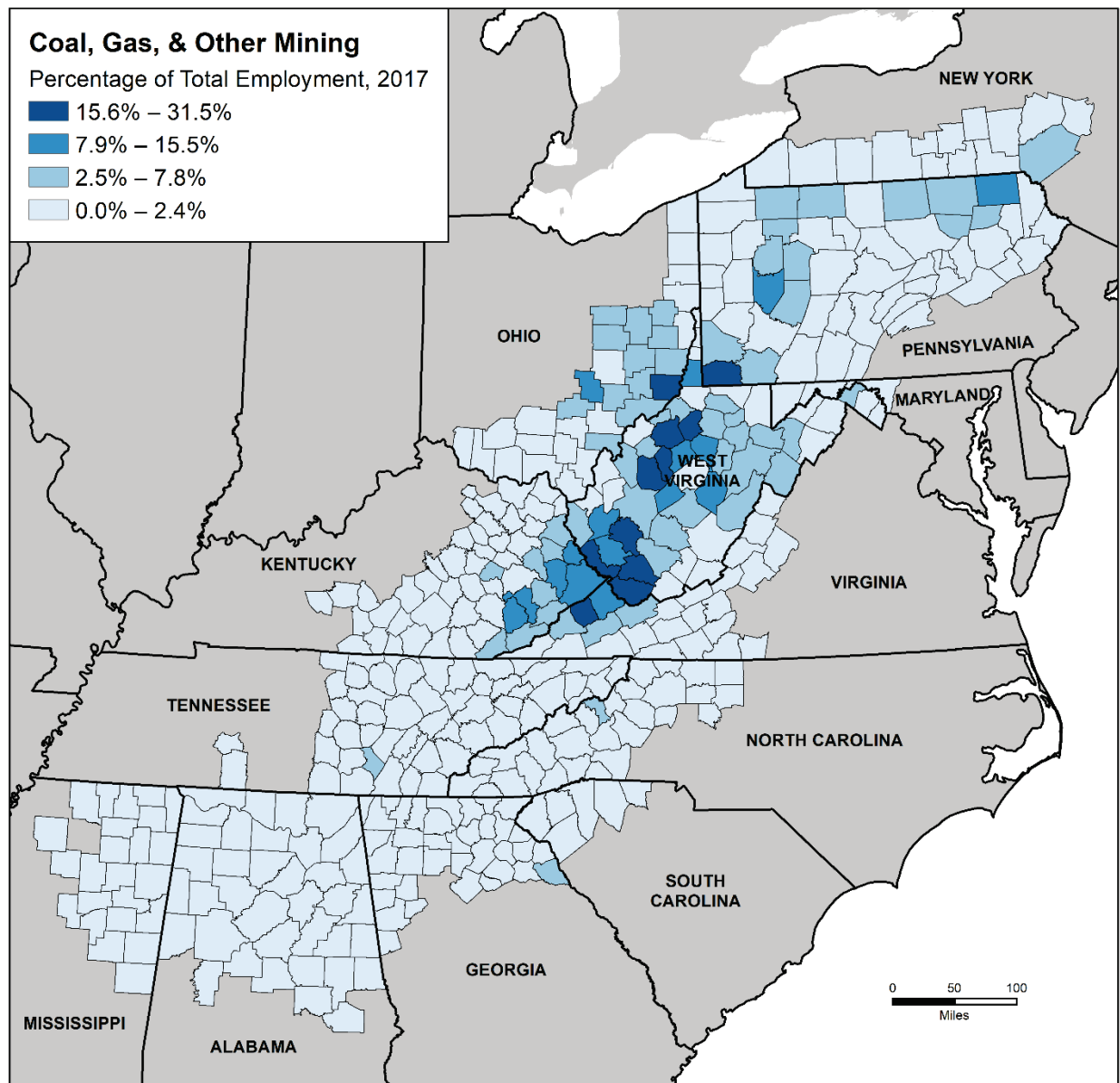
Figure 52 then displays the county-level industrial shares throughout the Region.

**Table 19: Employment and industrial shares, Coal, Gas, and Other Mining, 2002, 2007, 2012, and 2017**

Coal, Gas, Other Mining	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	747	1,012	1,547	1,505	0.5	0.6	0.9	0.8
<b>Appalachian Region</b>	97	118	169	140	0.8	0.9	1.3	1.0
<b>Non-Appalachian U.S.</b>	651	894	1,378	1,365	0.4	0.5	0.8	0.7
<b>Subregions</b>								
Northern Appalachia	31	39	71	63	0.7	0.9	1.6	1.4
North Central Appalachia	20	26	38	32	1.8	2.3	3.3	2.8
Central Appalachia	31	35	37	23	4.1	4.4	4.9	3.0
South Central Appalachia	5	6	7	7	0.2	0.2	0.3	0.3
Southern Appalachia	10	12	15	14	0.3	0.3	0.4	0.3
<b>County Types</b>								
Large Metros (pop. 1 million +)	13	15	27	26	0.4	0.5	0.9	0.8
Small Metros (pop. <1 million)	25	31	45	35	0.5	0.5	0.8	0.6
Nonmetro, Adjacent to Large Metros	10	12	19	15	1.0	1.2	1.9	1.5
Nonmetro, Adjacent to Small Metros	18	23	35	33	1.0	1.2	2.0	1.8
Rural (nonmetro, not adj. to a metro)	31	36	43	29	2.7	3.0	3.7	2.5
<b>Alabama</b>	9	11	14	12	0.4	0.4	0.6	0.5
Appalachian Alabama	7	8	11	9	0.5	0.5	0.7	0.5
Non-Appalachian Alabama	2	2	3	4	0.2	0.2	0.4	0.4
<b>Georgia</b>	9	10	10	11	0.2	0.2	0.2	0.2
Appalachian Georgia	2	2	3	3	0.2	0.2	0.2	0.2
Non-Appalachian Georgia	7	7	8	8	0.2	0.2	0.2	0.2
<b>Kentucky</b>	23	27	30	21	1.0	1.1	1.3	0.8
Appalachian Kentucky	15	17	17	11	3.1	3.4	3.4	2.2
Non-Appalachian Kentucky	7	10	14	10	0.4	0.5	0.7	0.5
<b>Maryland</b>	3	4	5	5	0.1	0.1	0.1	0.1
Appalachian Maryland	1	1	1	1	0.5	0.4	0.5	0.4
Non-Appalachian Maryland	2	3	4	4	0.1	0.1	0.1	0.1
<b>Mississippi</b>	8	10	16	17	0.5	0.7	1.1	1.1
Appalachian Mississippi	1	1	1	1	0.2	0.2	0.4	0.4
Non-Appalachian Mississippi	7	10	15	15	0.6	0.8	1.2	1.2
<b>New York</b>	9	12	17	17	0.1	0.1	0.2	0.1
Appalachian New York	2	3	4	3	0.4	0.5	0.7	0.6
Non-Appalachian New York	7	9	14	14	0.1	0.1	0.1	0.1
<b>North Carolina</b>	6	7	9	10	0.1	0.1	0.2	0.2
Appalachian North Carolina	1	2	2	2	0.2	0.2	0.2	0.2
Non-Appalachian North Carolina	4	5	7	7	0.1	0.1	0.2	0.2
<b>Ohio</b>	19	21	34	36	0.3	0.3	0.5	0.5
Appalachian Ohio	9	10	16	17	0.9	1.1	1.8	1.8
Non-Appalachian Ohio	11	11	19	19	0.2	0.2	0.3	0.3
<b>Pennsylvania</b>	25	32	59	51	0.4	0.4	0.8	0.7
Appalachian Pennsylvania	22	28	54	46	0.7	0.9	1.7	1.4
Non-Appalachian Pennsylvania	4	4	5	5	0.1	0.1	0.1	0.1
<b>South Carolina</b>	2	3	4	5	0.1	0.1	0.2	0.2
Appalachian South Carolina	1	1	1	1	0.1	0.1	0.1	0.2
Non-Appalachian South Carolina	2	2	3	4	0.1	0.1	0.2	0.2
<b>Tennessee</b>	6	7	10	10	0.2	0.2	0.3	0.3
Appalachian Tennessee	3	4	5	5	0.2	0.3	0.3	0.3
Non-Appalachian Tennessee	2	3	5	5	0.1	0.1	0.2	0.2
<b>Virginia</b>	11	13	17	14	0.3	0.3	0.3	0.3
Appalachian Virginia	7	7	8	5	1.9	1.8	2.2	1.4
Non-Appalachian Virginia	4	6	9	9	0.1	0.1	0.2	0.2
<b>West Virginia (entire state)</b>	27	35	47	36	3.1	3.8	5.2	4.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

**Figure 52: Percentage of total employment in the Appalachian Region, Coal, Gas, and Other Mining, 2017**



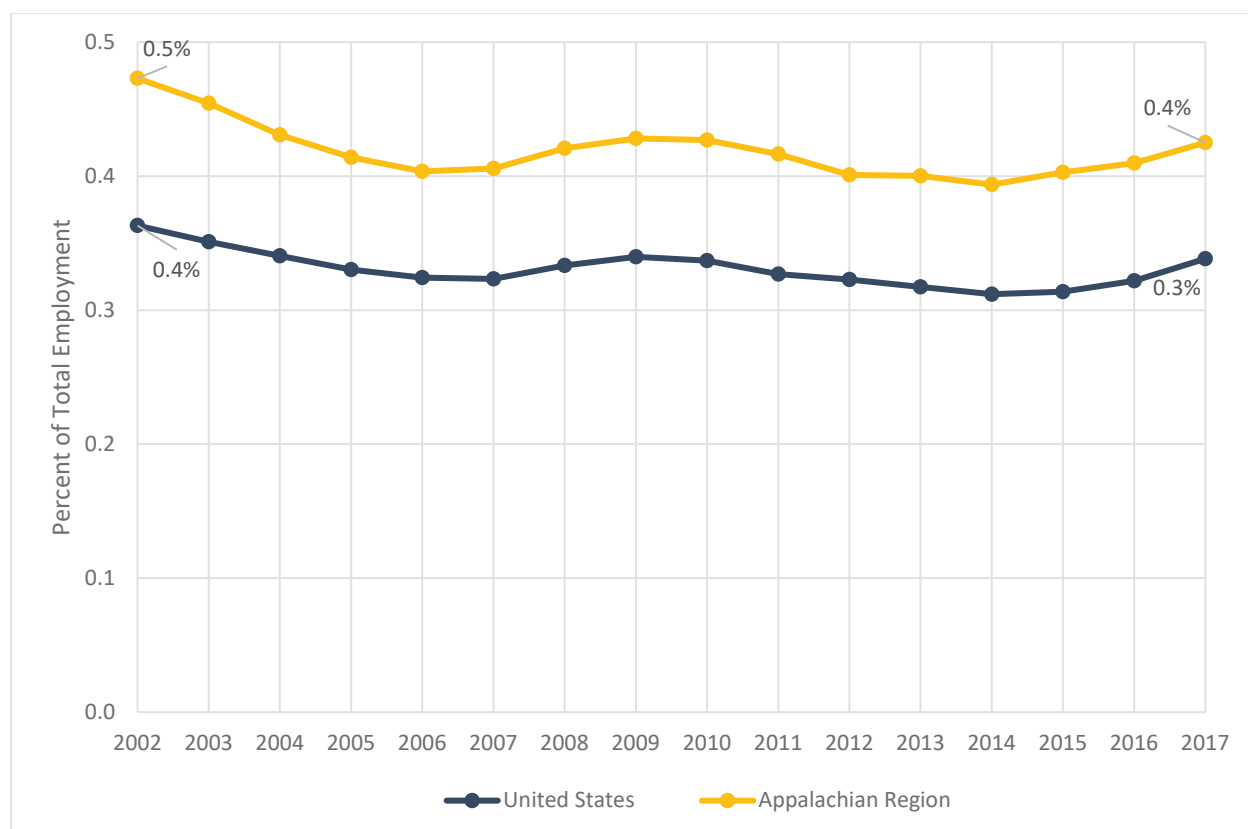
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Utilities

This category includes all establishments engaged in electric power generation, transmission, and distribution; natural gas distribution; steam supply provision and distribution; water treatment and distribution; and sewage collection and treatment. Excluded are all establishments operated by a federal, state, or local government.

As seen in Figure 53, industrial shares in the Utilities industry dropped slightly from 2002 to 2017. If we consider values to the hundredth place, the Region saw its share decrease from 0.47 percent in 2002 to 0.43 percent in 2017, and the United States at large dropped from 0.36 percent to 0.34 percent over the same time period. Given that services offered by establishments in this industry are, by and large, necessities, it makes intuitive sense that the sector experienced a slight increase in its share of overall employment from 2007 to 2010 during the Great Recession—at a time when employment in many other industries was declining.

**Figure 53: Industrial share, Utilities, 2002–2017**

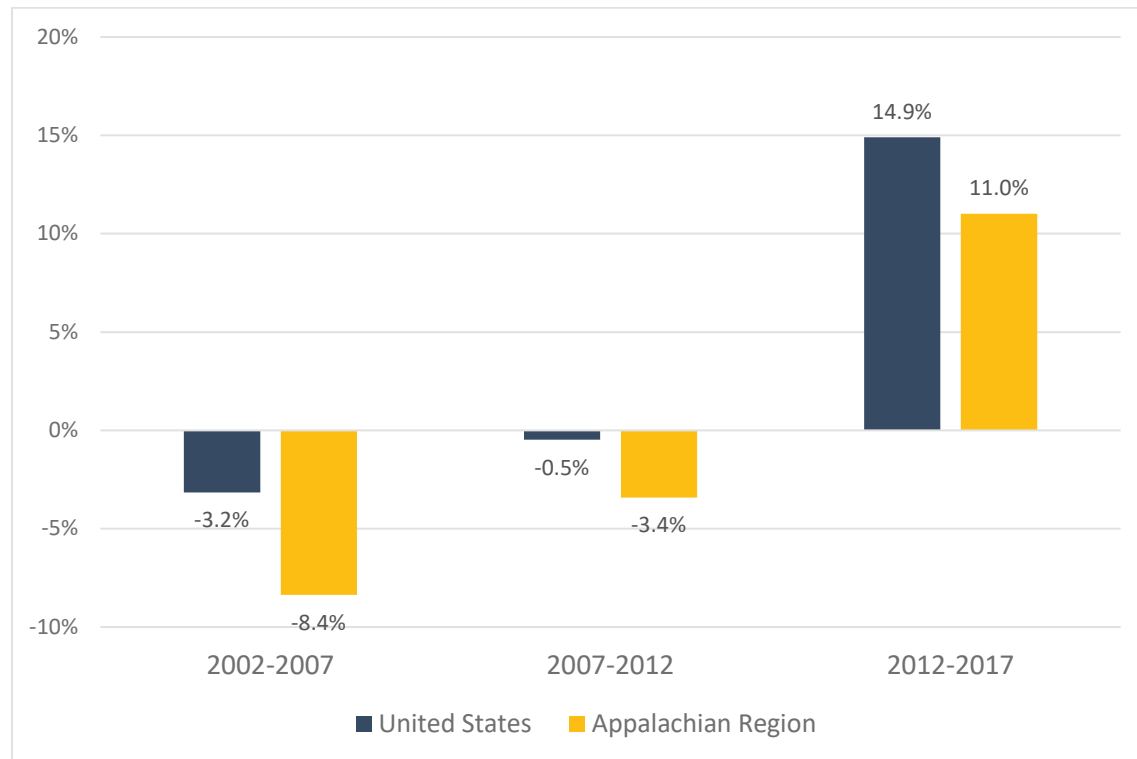


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



In terms of employment growth in Utilities, as seen in Figure 54, both the country overall and the Appalachian Region saw declines during the earlier two time periods. However, from 2012 to 2017, both the United States and Appalachia experienced increases, at 14.9 percent and 11 percent, respectively.

**Figure 54: Percent change in employment, Utilities, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Among the Region’s subregions, South Central Appalachia had the smallest industrial share in Utilities in 2017 (0.2 percent), and North Central Appalachia the largest (0.6 percent). Few differences exist based on metro designation.

West Virginia (0.7 percent) and Appalachian Mississippi (0.7 percent) had the largest industrial shares in the Region in 2017, and Appalachian Tennessee the smallest (0.1 percent).

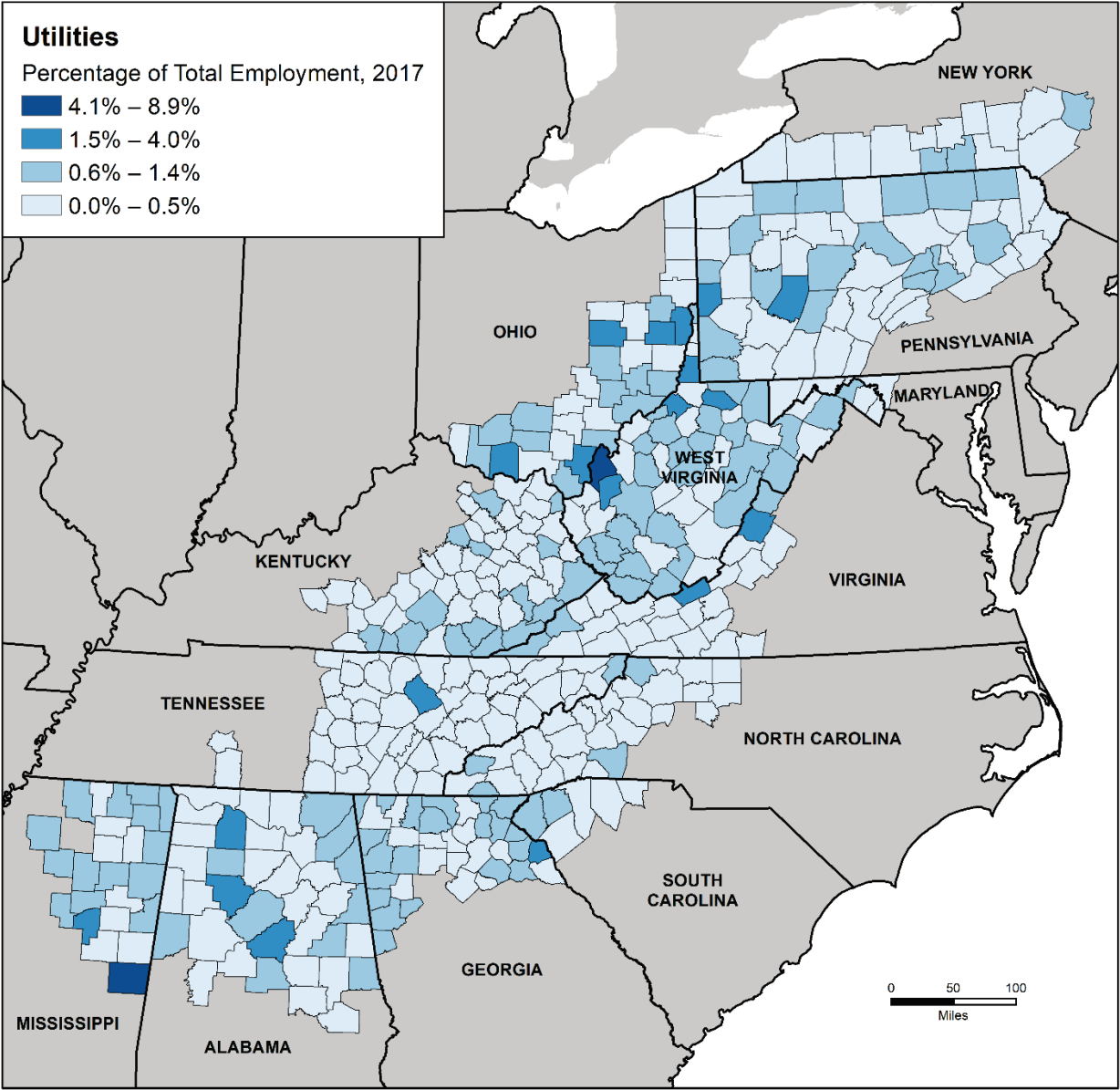
Figure 55 then displays the county-level industrial shares throughout the Region.

**Table 20: Employment and industrial shares, Utilities, 2002, 2007, 2012, and 2017**

Utilities	Employment (thousands)				Industrial Share			
	2002	2007	2012	2017	2002	2007	2012	2017
<b>United States</b>	599	581	578	664	0.4	0.3	0.3	0.3
<b>Appalachian Region</b>	58	53	51	57	0.5	0.4	0.4	0.4
<b>Non-Appalachian U.S.</b>	541	527	526	607	0.4	0.3	0.3	0.3
<b>Subregions</b>								
Northern Appalachia	24	19	19	21	0.6	0.4	0.4	0.5
North Central Appalachia	9	9	7	7	0.8	0.8	0.6	0.6
Central Appalachia	3	3	3	3	0.4	0.4	0.4	0.4
South Central Appalachia	5	4	4	5	0.2	0.2	0.2	0.2
Southern Appalachia	17	18	18	20	0.5	0.5	0.5	0.5
<b>County Types</b>								
Large Metros (pop. 1 million +)	18	16	17	18	0.6	0.5	0.5	0.5
Small Metros (pop. <1 million)	20	18	16	19	0.4	0.3	0.3	0.3
Nonmetro, Adjacent to Large Metros	5	6	5	5	0.5	0.5	0.5	0.5
Nonmetro, Adjacent to Small Metros	9	9	8	9	0.5	0.5	0.4	0.5
Rural (nonmetro, not adj. to a metro)	6	5	5	6	0.5	0.5	0.4	0.5
<b>Alabama</b>	14	14	15	15	0.6	0.5	0.6	0.6
Appalachian Alabama	9	10	10	11	0.6	0.6	0.6	0.6
Non-Appalachian Alabama	5	4	4	5	0.6	0.4	0.5	0.5
<b>Georgia</b>	21	22	21	23	0.4	0.4	0.4	0.4
Appalachian Georgia	4	5	5	6	0.4	0.4	0.3	0.4
Non-Appalachian Georgia	17	17	16	18	0.5	0.4	0.4	0.4
<b>Kentucky</b>	7	7	7	8	0.3	0.3	0.3	0.3
Appalachian Kentucky	2	2	2	2	0.4	0.4	0.4	0.4
Non-Appalachian Kentucky	5	5	5	6	0.3	0.3	0.3	0.3
<b>Maryland</b>	10	10	11	13	0.3	0.3	0.3	0.3
Appalachian Maryland	1	0	0	0	0.4	0.3	0.3	0.3
Non-Appalachian Maryland	10	10	10	12	0.3	0.3	0.3	0.3
<b>Mississippi</b>	8	8	8	9	0.6	0.5	0.5	0.6
Appalachian Mississippi	2	2	2	2	0.5	0.5	0.5	0.7
Non-Appalachian Mississippi	7	6	7	7	0.6	0.5	0.5	0.6
<b>New York</b>	43	40	38	47	0.4	0.4	0.3	0.4
Appalachian New York	3	2	2	2	0.5	0.4	0.4	0.4
Non-Appalachian New York	40	38	36	45	0.4	0.4	0.3	0.4
<b>North Carolina</b>	15	14	13	18	0.3	0.2	0.2	0.3
Appalachian North Carolina	2	2	2	3	0.3	0.2	0.2	0.3
Non-Appalachian North Carolina	12	11	11	15	0.3	0.3	0.2	0.3
<b>Ohio</b>	22	22	20	22	0.3	0.3	0.3	0.3
Appalachian Ohio	6	6	6	5	0.7	0.7	0.6	0.6
Non-Appalachian Ohio	16	16	14	17	0.3	0.3	0.3	0.3
<b>Pennsylvania</b>	32	22	24	28	0.5	0.3	0.3	0.4
Appalachian Pennsylvania	17	13	13	15	0.6	0.4	0.4	0.5
Non-Appalachian Pennsylvania	14	9	10	13	0.4	0.2	0.3	0.3
<b>South Carolina</b>	12	12	12	14	0.5	0.5	0.5	0.5
Appalachian South Carolina	2	2	2	2	0.3	0.3	0.2	0.3
Non-Appalachian South Carolina	10	10	11	12	0.6	0.6	0.6	0.6
<b>Tennessee</b>	4	4	4	5	0.1	0.1	0.1	0.1
Appalachian Tennessee	2	2	2	2	0.1	0.1	0.1	0.1
Non-Appalachian Tennessee	2	2	2	3	0.1	0.1	0.1	0.1
<b>Virginia</b>	12	12	11	13	0.3	0.2	0.2	0.2
Appalachian Virginia	1	1	1	1	0.3	0.3	0.3	0.3
Non-Appalachian Virginia	11	11	10	12	0.3	0.2	0.2	0.2
<b>West Virginia (entire state)</b>	7	6	5	6	0.8	0.7	0.6	0.7

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 55: Percentage of total employment in the Appalachian Region, Utilities, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

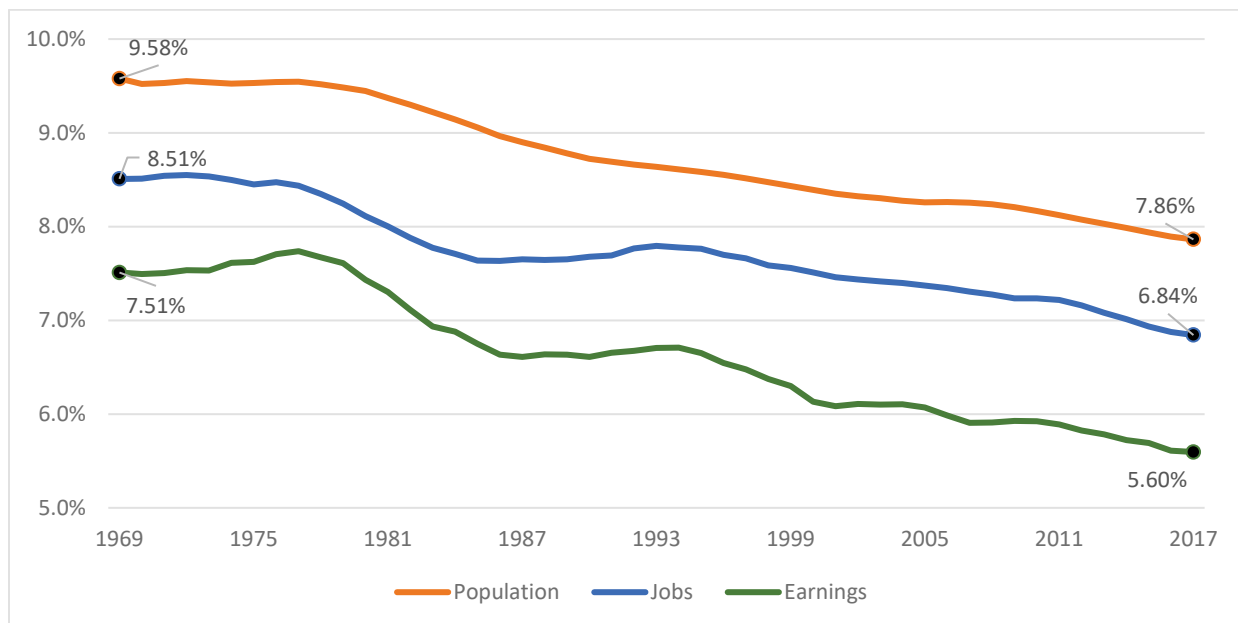
## Chapter 4: Earnings

### Overall Earnings

We previously noted that it would be reasonable to assume that if a region comprised a specific percentage of a country's population, the region would also comprise that same percentage of the country's employment. Figure 56 shows Appalachia's percentage of the United States' population and employment over time—which we discussed in Chapter 2—along with a third variable: Appalachia's percentage of U.S. earnings. (A quick reminder: Earnings comprise wages and salaries, other labor income, proprietors' income, and personal contributions for social insurance.)

Since 1969, a decreasing percentage of the country's overall earnings have come to establishments in Appalachia, dropping from 7.5 percent in 1969 to 5.6 percent in 2017. The Region's share of employment has been higher than its share of earnings in every year of data, and the gap between the two has been widening since the late 1970s.

**Figure 56: Percentage of U.S. population, employment, and earnings in Appalachia, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

A more direct way of examining this trend is seen in Figure 57, which displays Appalachia's share of the country's earnings relative to its share of the country's employment (this same exercise was done in Chapter 2 with population and employment). The formula is as follows:

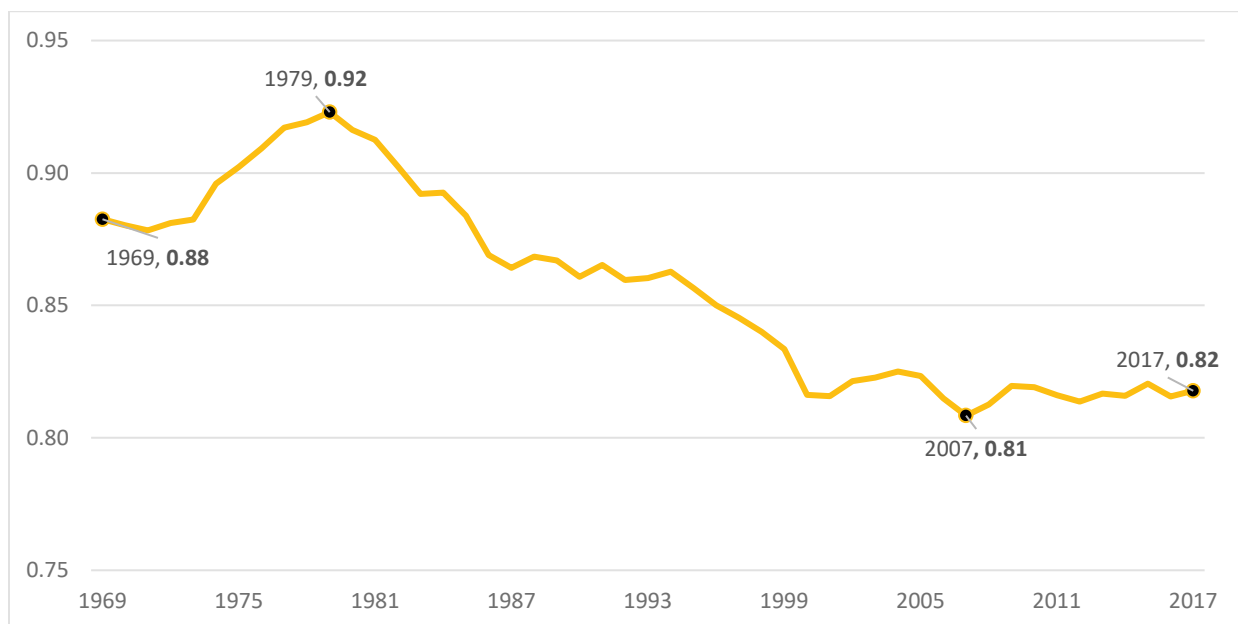
$$\text{Appalachia's share of U.S. earnings} / \text{Appalachia's share of U.S. employment}$$

In 1969, for example, this ratio was 0.88, with the calculation as follows:

$$7.51 / 8.51 = 0.88$$

This ratio was at its highest in 1979, at 0.92, but has since fallen to 0.82 in 2017. The lowest ratio came in 2007, when the figure was 0.81. Since then, the figure has remained relatively stable.

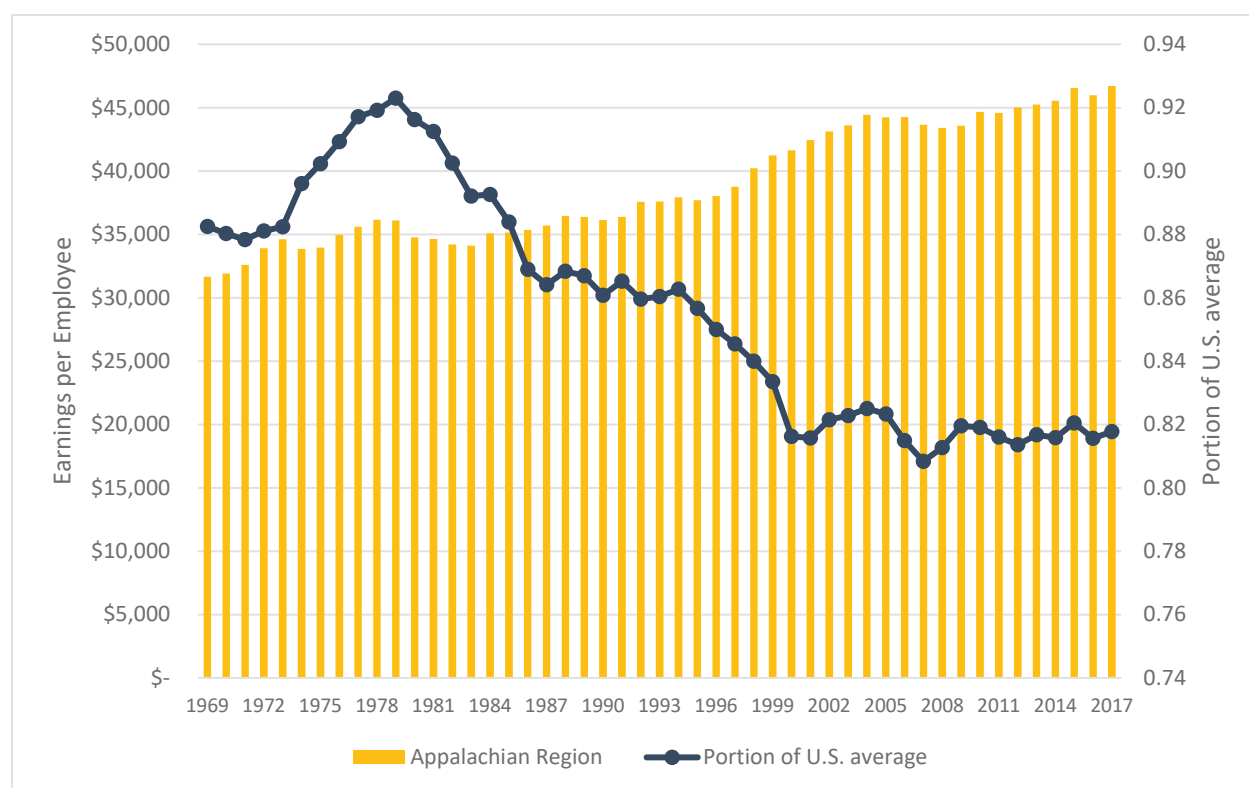
**Figure 57: Ratio of Appalachia's share of U.S. earnings to share of U.S. employment, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 58 charts earnings per employee in Appalachia across all industries, as well as what portion of the national average this Regional average represents. For example, in 2017, earnings per employee in the Region was \$46,697, which was 82 percent of the earnings per employee in the United States overall (\$57,187). In 1969, average earnings in the Region represented 88 percent of the national average, and this gradually increased over the next ten years, to 92 percent in 1979. Over the next two decades, however, this figure dropped to 82 percent in 2000. From 2000 to 2017, the percentage remained relatively stable, dropping to a low of 81 percent in 2007 before increasing slightly and leveling off at 82 percent over recent years, including in 2017.

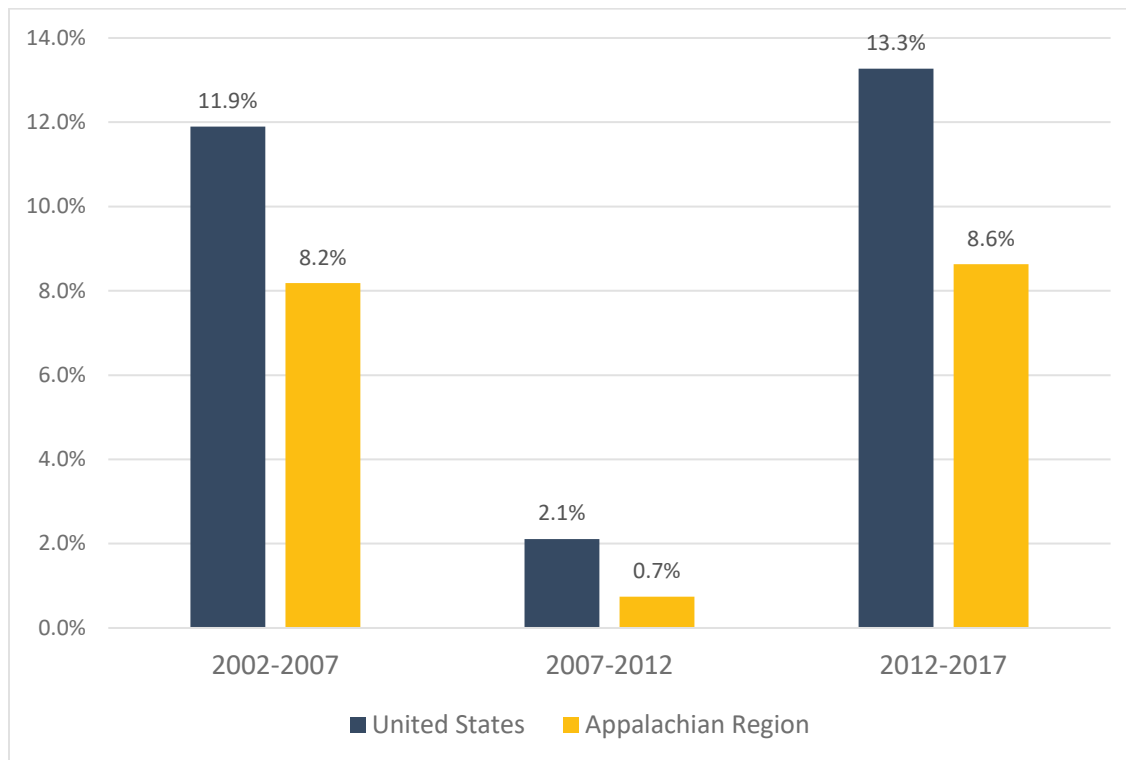
**Figure 58: Earnings per employee in Appalachia, all industries, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 59 introduces earnings growth for all industries across three time periods: 2002–2007, 2007–2012, and 2012–2017. Though Appalachia experienced growth in earnings during each period, the Region’s increases did not match those of the United States as a whole. Interestingly, both geographies experienced higher growth in the post-Recession period than in the pre-Recession. Over 2002–2007, the Region saw earnings growth of 8.2 percent, and the United States 11.9 percent; in 2012–2017, the Region’s earnings grew by 8.6 percent, and the United States’ by 13.3 percent.

**Figure 59: Earnings growth, all industries, 2002–2007, 2007–2012, and 2012–2017**

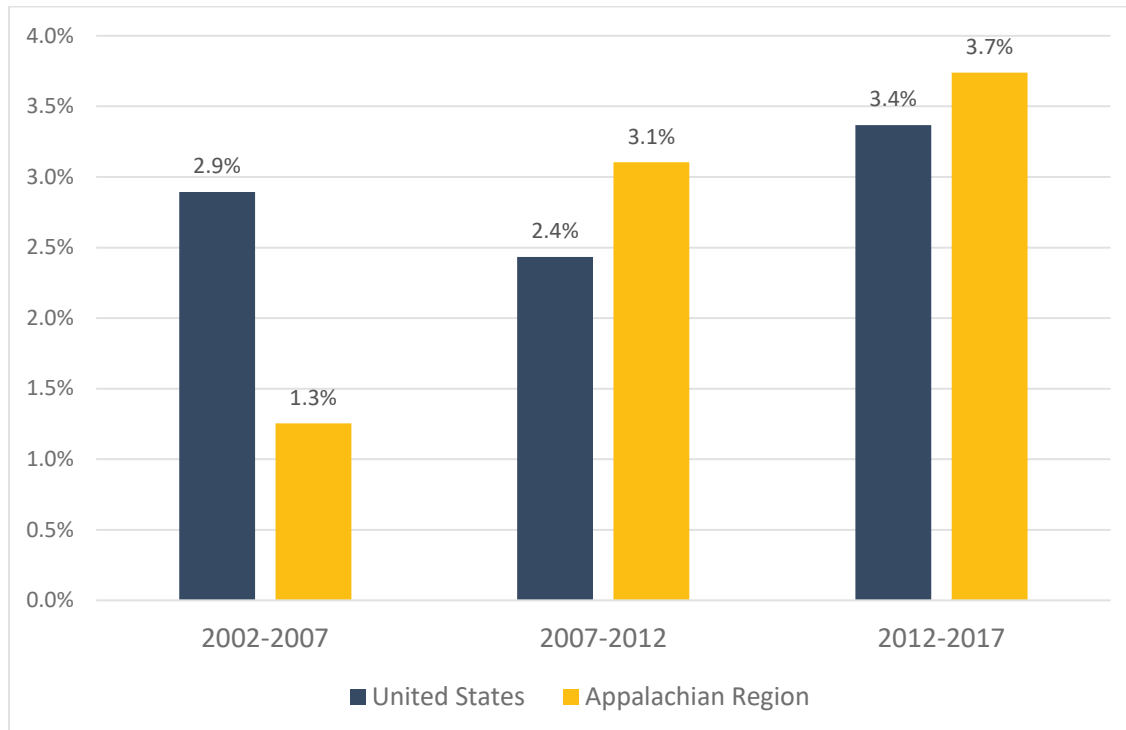


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Earnings per Employee

Earnings per employee also increased over each of the three time periods considered. In fact, as seen in Figure 60, earnings per employee grew at a faster rate in Appalachia than in the country as a whole during the two most recent periods. Over 2007–2012, earnings per employee grew by 3.1 percent in Appalachia and 2.4 percent in the United States; from 2012–2017, earnings per employee grew by 3.7 percent in Appalachia and 3.4 percent in the United States.

**Figure 60: Percent change in earnings per employee, all industries, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



A caveat should be noted regarding earnings per employee. First, as we recall from Chapter 2, employment growth in the Region was lower than what it was in the United States as a whole during all three time periods. Second, when we considered Figure 59—overall earnings growth—we saw that the Region lagged behind the United States as a whole in terms of overall earnings. So while earnings *per employee* grew faster in the Region than in the United States as a whole, growth in both overall earnings and overall employment was slower in Appalachia. Table 21 includes the growth rates for earnings and employment for both Appalachia and the country overall.

**Table 21: Earnings and employment growth, 2002–2007, 2007–2012, and 2012–2017**

Time Period	Appalachian Region		United States	
	<i>Earnings</i>	<i>Employment</i>	<i>Earnings</i>	<i>Employment</i>
2002–2007	8.2%	6.8%	11.9%	8.8%
2007–2012	0.7%	-2.3%	2.1%	-0.3%
2012–2017	8.6%	4.7%	13.3%	9.6%

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Consider the 2007–2012 period, when the relative spread between the growth percentages in the Region (0.7 percent growth in earnings, 2.3 percent decline in employment) was greater than that in the United States (2.1 percent growth in earnings, 0.3 percent decline in employment). The dominant force at play in the Region was not necessarily a growth in earnings, but rather a decline in employment—and thus, due to the larger gap between the two variables in the Region than in the United States overall, Appalachia saw the higher growth in earnings per employee.

Consider the 2012–2017 period, as well, when employment grew more slowly in the Region than in the country as a whole. Again, as in the 2007–2012 period, the relative spread between earnings and employment was larger in Appalachia (8.6 percent growth in earnings, 4.7 percent growth in employment) than in the United States (13.3 percent growth in earnings, 9.6 percent growth in employment).

**Table 22: Earnings per employee and percent change, all industries, 2002–2017**

All Industries	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$52,491	\$54,009	\$55,324	\$57,187	2.9	2.4	3.4
<b>Appalachian Region</b>	\$43,119	\$43,660	\$45,015	\$46,697	1.3	3.1	3.7
<b>Non-Appalachian U.S.</b>	\$53,243	\$54,825	\$56,119	\$57,958	3.0	2.4	3.3
<b>Subregions</b>							
Northern Appalachia	\$45,259	\$46,366	\$47,664	\$49,897	2.4	2.8	4.7
North Central Appalachia	\$40,663	\$40,935	\$43,518	\$44,499	0.7	6.3	2.3
Central Appalachia	\$36,590	\$37,765	\$40,086	\$38,709	3.2	6.1	-3.4
South Central Appalachia	\$40,710	\$41,410	\$43,168	\$45,068	1.7	4.2	4.4
Southern Appalachia	\$44,243	\$43,990	\$44,554	\$46,292	-0.6	1.3	3.9
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$50,054	\$49,861	\$50,463	\$52,772	-0.4	1.2	4.6
Small Metros (pop. <1 million)	\$43,809	\$44,410	\$45,971	\$47,588	1.4	3.5	3.5
Nonmetro, Adjacent to Large Metros	\$38,819	\$39,711	\$41,186	\$42,462	2.3	3.7	3.1
Nonmetro, Adjacent to Small Metros	\$36,727	\$36,919	\$38,375	\$39,761	0.5	3.9	3.6
Rural (nonmetro, not adj. to a metro)	\$36,433	\$37,542	\$39,125	\$39,052	3.0	4.2	-0.2
<b>Alabama</b>	\$43,258	\$44,334	\$44,998	\$46,487	2.5	1.5	3.3
Appalachian Alabama	\$44,805	\$45,924	\$46,942	\$48,356	2.5	2.2	3.0
Non-Appalachian Alabama	\$40,452	\$41,487	\$41,505	\$43,110	2.6	0.0	3.9
<b>Georgia</b>	\$51,856	\$50,585	\$49,487	\$52,641	-2.5	-2.2	6.4
Appalachian Georgia	\$44,776	\$42,735	\$42,250	\$44,747	-4.6	-1.1	5.9
Non-Appalachian Georgia	\$54,073	\$53,300	\$51,924	\$55,391	-1.4	-2.6	6.7
<b>Kentucky</b>	\$42,951	\$44,283	\$45,573	\$46,581	3.1	2.9	2.2
Appalachian Kentucky	\$35,134	\$36,023	\$37,611	\$36,599	2.5	4.4	-2.7
Non-Appalachian Kentucky	\$45,076	\$46,430	\$47,627	\$48,958	3.0	2.6	2.8
<b>Maryland</b>	\$55,819	\$57,695	\$61,726	\$64,047	3.4	7.0	3.8
Appalachian Maryland	\$45,440	\$43,860	\$44,569	\$46,601	-3.5	1.6	4.6
Non-Appalachian Maryland	\$56,272	\$58,283	\$62,450	\$64,735	3.6	7.2	3.7
<b>Mississippi</b>	\$38,600	\$40,208	\$41,062	\$40,055	4.2	2.1	-2.5
Appalachian Mississippi	\$36,448	\$37,188	\$38,063	\$37,988	2.0	2.4	-0.2
Non-Appalachian Mississippi	\$39,161	\$40,958	\$41,830	\$40,580	4.6	2.1	-3.0
<b>New York</b>	\$68,035	\$70,312	\$69,827	\$72,671	3.3	-0.7	4.1
Appalachian New York	\$42,495	\$44,359	\$46,810	\$48,056	4.4	5.5	2.7
Non-Appalachian New York	\$69,475	\$71,706	\$70,972	\$73,780	3.2	-1.0	4.0
<b>North Carolina</b>	\$45,045	\$49,404	\$49,860	\$50,762	9.7	0.9	1.8
Appalachian North Carolina	\$40,520	\$40,589	\$40,173	\$42,601	0.2	-1.0	6.0
Non-Appalachian North Carolina	\$46,019	\$51,207	\$51,741	\$52,294	11.3	1.0	1.1
<b>Ohio</b>	\$48,473	\$49,146	\$50,944	\$52,646	1.4	3.7	3.3
Appalachian Ohio	\$40,431	\$40,626	\$41,436	\$43,529	0.5	2.0	5.0
Non-Appalachian Ohio	\$49,772	\$50,497	\$52,441	\$54,023	1.5	3.8	3.0
<b>Pennsylvania</b>	\$52,413	\$54,652	\$55,847	\$58,710	4.3	2.2	5.1
Appalachian Pennsylvania	\$46,497	\$47,691	\$49,033	\$51,411	2.6	2.8	4.8
Non-Appalachian Pennsylvania	\$57,206	\$60,115	\$61,182	\$64,072	5.1	1.8	4.7
<b>South Carolina</b>	\$42,582	\$43,626	\$44,980	\$47,201	2.5	3.1	4.9
Appalachian South Carolina	\$45,681	\$44,938	\$46,550	\$48,442	-1.6	3.6	4.1
Non-Appalachian South Carolina	\$41,438	\$43,156	\$44,417	\$46,750	4.1	2.9	5.3
<b>Tennessee</b>	\$46,681	\$47,431	\$50,579	\$53,236	1.6	6.6	5.3
Appalachian Tennessee	\$41,391	\$42,356	\$45,540	\$47,394	2.3	7.5	4.1
Non-Appalachian Tennessee	\$50,443	\$50,999	\$54,015	\$57,013	1.1	5.9	5.6
<b>Virginia</b>	\$52,948	\$56,493	\$58,324	\$58,561	6.7	3.2	0.4
Appalachian Virginia	\$37,023	\$38,165	\$39,895	\$39,266	3.1	4.5	-1.6
Non-Appalachian Virginia	\$54,388	\$58,040	\$59,798	\$59,982	6.7	3.0	0.3
<b>West Virginia (entire state)</b>	\$41,799	\$42,459	\$45,202	\$45,460	1.6	6.5	0.6

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Chapter 5: Industrial Make-up of Earnings

Table 23 includes a breakdown of overall earnings by industry, for both Appalachia and the United States as a whole. The highest-earning industries in the Region in 2017 were State and Local Government (\$86.5 billion, 13.8 percent of total earnings); Manufacturing (\$85.3 billion, 13.6 percent); and Health and Social Services (\$84.1 billion, 13.4 percent). The United States as a whole had a slightly different arrangement of top-earning industries, with Professional and Technical Services being the highest-earning sector (\$1.7 trillion, 15.6 percent), followed by State and Local Government (\$1.4 trillion, 12.2 percent) and Health and Social Services (\$1.3 billion, 11.2 percent).

In terms of industrial shares of total earnings, differences between the Region and the United States as a whole were greatest in the following sectors: Manufacturing (13.6 percent in Appalachia, compared to 9.2 percent in the United States); Professional and Technical Services (11.1 percent, compared to 15.6 percent); and Finance, Insurance, and Real Estate (6.3 percent, compared to 10.6 percent). Of course, these gaps in earnings can largely be attributed to the differences in employment across the industries, with Appalachia having a larger share of its employment engaged in Manufacturing than the nation as a whole (10 percent in Appalachia, compared to 6.8 percent in the United States), and less engaged in the other two industries: Professional and Technical Services (12.1 percent, compared to 14.5 percent) and Finance, Insurance, and Real Estate (7.8 percent, compared to 10 percent).

**Table 23: Earnings per industry and industrial shares (%), 2017**

Earnings (millions) and Industrial Shares, 2017	Appalachian Region		United States	
	<i>Earnings</i>	<i>Ind. Share</i>	<i>Earnings</i>	<i>Ind. Share</i>
State and Local Government	86,473	13.8	1,366,996	12.2
Manufacturing	85,318	13.6	1,030,856	9.2
Health, Social Services	84,064	13.4	1,250,695	11.2
Wholesale Trade, Transportation	70,552	11.3	1,186,708	10.6
Professional, Technical Services	69,790	11.1	1,747,792	15.6
Construction	41,693	6.7	689,088	6.1
Finance, Insurance, Real Estate	39,233	6.3	1,184,552	10.6
Education, Information Services	34,379	5.5	666,332	5.9
Retail Trade	26,730	4.3	432,070	3.9
Food, Lodging, Entertainment	26,420	4.2	530,302	4.7
Personal and Other Services	25,510	4.1	406,055	3.6
Federal Government, Military	19,005	3.0	439,391	3.9
Coal, Gas, Other Mining	6,837	1.1	101,996	0.9
Utilities	6,235	1.0	83,577	0.7
Farming, Forestry	4,459	0.7	99,839	0.9
<b>Total Earnings</b>	<b>626,698</b>	<b>100</b>	<b>11,200,000</b>	<b>100</b>

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 24 illustrates how each industry's share of total earnings has changed over time. For most industries, share of total earnings was relatively stable from 2002 to 2017. Manufacturing experienced the largest decline, dropping from 18.2 percent of earnings in 2002 to 13.5 percent in 2012, with a slight uptick to 13.6 percent in 2017. Both Health and Social Services (11.1 percent in 2002 to 13.4 percent in 2017) and Professional and Technical Services (8.6 percent in 2002 to 11.1 percent in 2017) experienced increases, matching the two industries' employment trends.

**Table 24: Share of total earnings (%) by industry in Appalachia, 2002, 2007, 2012, and 2017**

Industry	2002	2007	2012	2017
State & Local Government	13.9	14.3	14.1	13.8
Health, Social Services	11.1	12.0	13.2	13.4
Manufacturing	18.2	16.0	13.5	13.6
Wholesale Trade, Transportation	12.8	12.3	11.6	11.3
Professional, Technical Services	8.6	9.3	10.3	11.1
Construction	6.7	7.0	6.5	6.7
Finance, Insurance, Real Estate	6.7	6.5	6.4	6.3
Education, Information Services	4.4	5.0	5.6	5.5
Retail Trade	3.7	3.7	3.7	4.3
Food, Lodging, Entertainment	3.5	3.5	3.9	4.2
Personal & Other Services	4.3	4.1	4.1	4.1
Federal Government, Military	3.0	3.2	3.3	3.0
Coal, Gas, Other Mining	1.2	1.5	1.9	1.1
Utilities	1.1	1.0	1.0	1.0
Farming, Forestry	0.7	0.7	0.8	0.7

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Employment shares are included along with earnings shares in Table 25 below, shedding light on how changes in the industries' earnings shares can be attributed to the corresponding changes in employment shares.

In 2017, for the three industries with the largest shares of Appalachia's total earnings, their earnings shares were larger than their employment shares (e.g., for State and Local Government in 2017, earnings accounted for 13.8 percent of earnings and 11.1 percent of employment).

For other industries, the reverse was the case: they had larger shares of total employment than shares of total earnings (e.g., Retail Trade in 2017 accounted for 4.3 percent of earnings and 11.1 percent of employment). Over the years, the industries' shares of earnings and shares of employment remained mostly steady. Only Finance, Insurance, and Real Estate went from having a larger earnings share (6.7 percent of earnings, compared to 6.1 percent of employment in 2002) to the opposite distinction, of having a larger employment share (6.3 percent of earnings, compared to 7.8 percent of employment in 2017).

**Table 25: Shares of total earnings (%) and employment by industry in Appalachia, 2002, 2007, 2012, 2017**

	2002		2007		2012		2017	
	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>
State and Local Government	13.9	11.7	14.3	11.5	14.1	11.7	13.8	11.1
Health, Social Services	11.1	9.9	12.0	10.6	13.2	11.6	13.4	11.6
Manufacturing	18.2	13.8	16.0	11.5	13.5	9.9	13.6	10.0
Wholesale Trade, Transportation	12.8	6.5	12.3	6.6	11.6	6.4	11.3	6.5
Professional, Technical Services	8.6	9.9	9.3	11.1	10.3	11.8	11.1	12.1
Construction	6.7	6.3	7.0	6.8	6.5	5.6	6.7	5.8
Finance, Insurance, Real Estate	6.7	6.1	6.5	6.9	6.4	7.5	6.3	7.8
Education, Information Services	4.4	3.3	5.0	3.2	5.6	3.3	5.5	3.2
Retail Trade	3.7	12.3	3.7	11.8	3.7	11.4	4.3	11.1
Food, Lodging, Entertainment	3.5	7.9	3.5	8.3	3.9	8.7	4.2	9.2
Personal and Other Services	4.3	6.0	4.1	5.8	4.1	6.0	4.1	5.9
Federal Government, Military	3.0	2.1	3.2	1.9	3.3	2.0	3.0	1.8
Coal, Gas, Other Mining	1.2	0.8	1.5	0.9	1.9	1.3	1.1	1.0
Utilities	1.1	0.5	1.0	0.4	1.0	0.4	1.0	0.4
Farming, Forestry	0.7	2.9	0.7	2.6	0.8	2.5	0.7	2.4

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 26 shows how earnings per employee in the Region compares with earnings per employee at the national level, based on industry. Across all industries, earnings per employee in Appalachia was \$46,697 in 2017, which was just 82 percent of the national figure of \$57,187. Of the 15 industries considered here, Utilities had the highest earnings per employee in both the Region and the country as a whole, at \$109,314 in Appalachia and \$125,893 in the United States. Second in the Region in terms of earnings per employee was Wholesale Trade and Transportation (\$80,686); second for the country overall was Federal Government and Military (\$91,808).

Education and Information Services was the industry in which earnings per employee in Appalachia came closest to matching the national average (97 percent of the U.S. figure in 2017). For both Wholesale Trade and Transportation and Health and Social Services, earnings per employee in the Region were 96 percent of the national averages.

The Farming and Forestry industry had the largest relative discrepancy between earnings per employee in the Region (\$13,726) and earnings per employee at the national level (\$28,111); for this sector, Appalachia's average earnings represented just 49 percent of the national figure. Finance, Insurance, and Real Estate (62 percent) and Professional and Technical Services (70 percent) were two other industries in which Regional earnings per employee fell well below national averages.

**Table 26: Earnings per employee in Appalachia and the United States, 2017**

Earnings per Employee, 2017	Appalachian Region	United States	Appalachia as a % of U.S.
<b>All Industries</b>	<b>\$46,697</b>	<b>\$57,187</b>	<b>82%</b>
Utilities	\$109,314	\$125,893	87%
Wholesale Trade, Transportation	\$80,686	\$83,878	96%
Education, Information Services	\$79,670	\$82,520	97%
Federal Government, Military	\$78,938	\$91,808	86%
Manufacturing	\$63,583	\$77,469	82%
State and Local Government	\$58,113	\$69,677	83%
Health, Social Services	\$53,807	\$56,340	96%
Construction	\$53,773	\$64,788	83%
Coal, Gas, Other Mining	\$48,966	\$67,769	72%
Professional, Technical Services	\$43,107	\$61,372	70%
Finance, Insurance, Real Estate	\$37,716	\$60,386	62%
Personal and Other Services	\$32,180	\$36,353	89%
Food, Lodging, Entertainment	\$21,308	\$27,685	77%
Retail Trade	\$17,906	\$22,477	80%
Farming, Forestry	\$13,726	\$28,111	49%

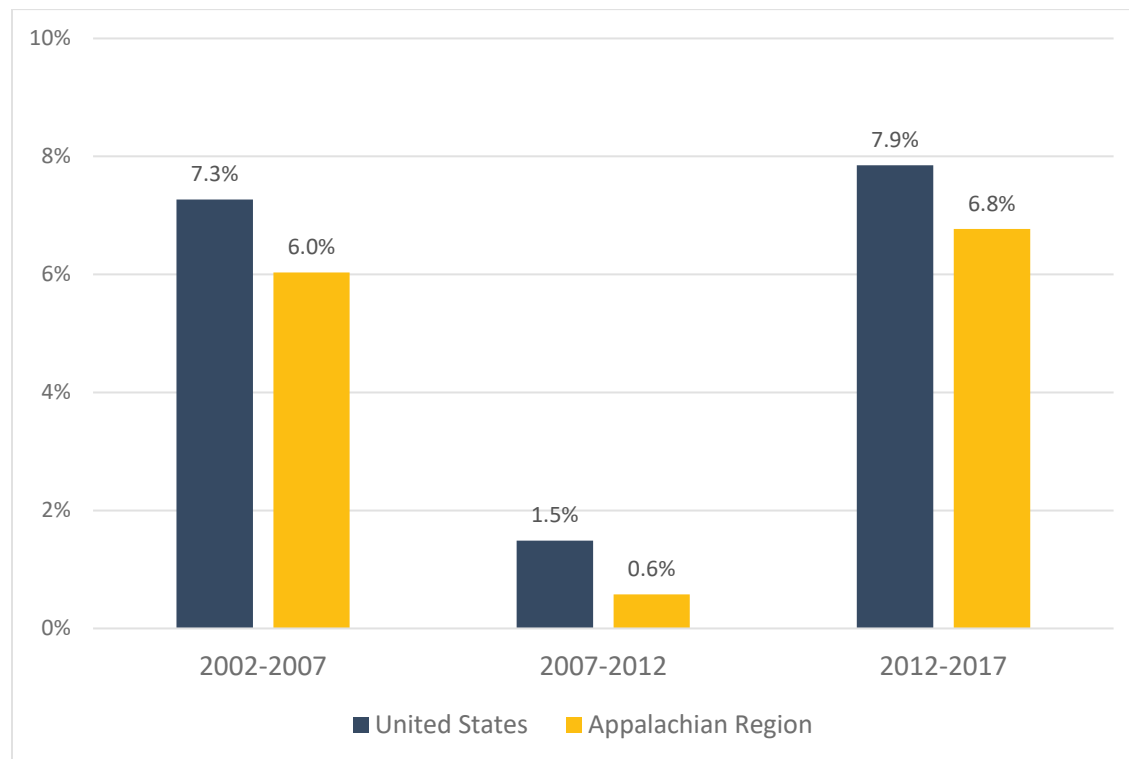
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In the sections that follow, earnings per employee for each of the 15 industrial categories will be explored in greater detail. Ordering of industries is based on the industry's share of *overall* Appalachian earnings in 2017, starting with the largest.

## State and Local Government

Earnings by employees in State and Local Government accounted for the largest share of the Region's total earnings in 2017 (\$86.5 billion, 13.8 percent). Earnings per Appalachian employee in the industry were 83 percent of the national figure, with workers in the Region earning an average of \$58,113, compared to the national average of \$69,677. Since 2002, growth in earnings per employee in Appalachia has been slower than that experienced by the country overall. In Figure 61, we see that the Region had relatively slower growth rates in each of the time periods considered.

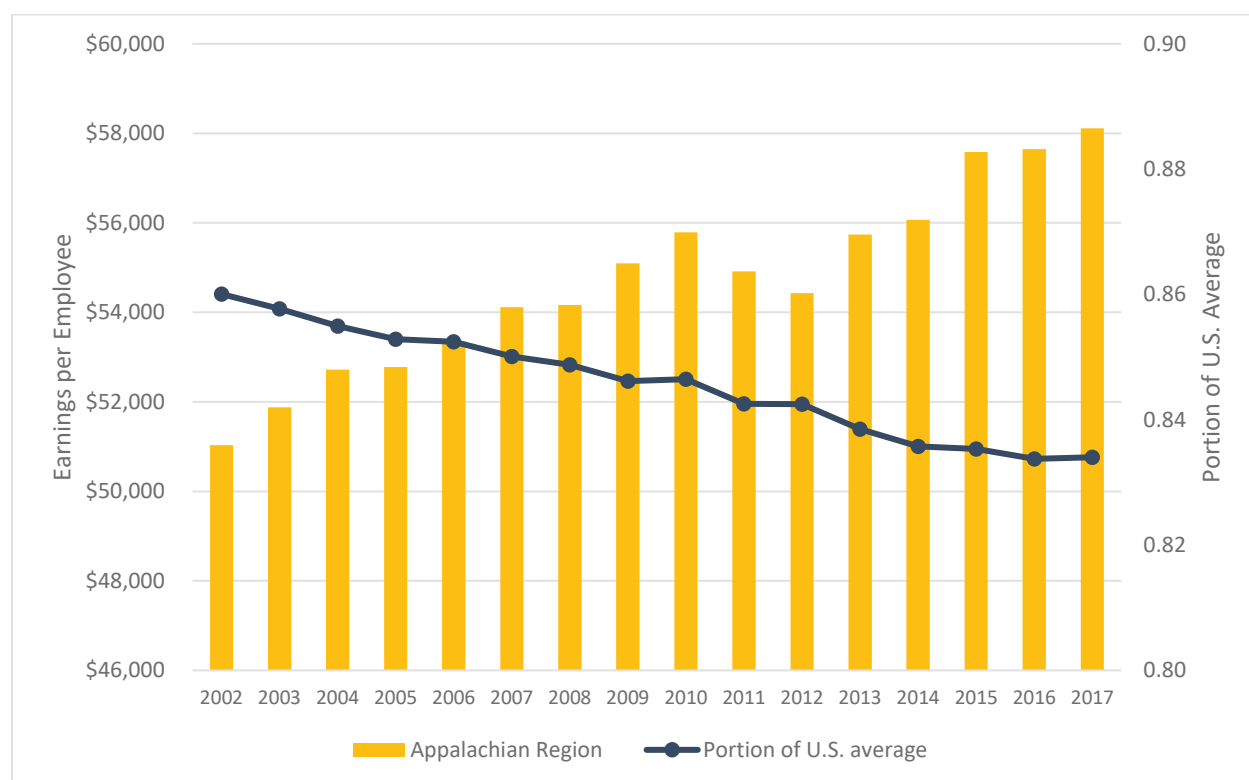
**Figure 61: Percent change in earnings per employee, State and Local Government, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

It follows that, as a percentage of the U.S. average, earnings per employee in Appalachia has fallen steadily since 2002: from 86 percent in 2002 to 83 percent in 2017. Figure 62 charts these changes over time.

**Figure 62: Earnings per employee in Appalachia, State and Local Government, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 27 we see how earnings per employee across the Region have changed over time. Considering the most recent time period, 2012–2017, we see that South Central (7.8 percent) and Southern Appalachia (8.2 percent) experienced the fastest growth in earnings per employee in the State and Local Government sector, though the Northern subregion had the highest average earnings in 2017, at \$65,971. Metro areas throughout the Region had the highest average earnings, and they also experienced the fastest growth.

For the most part, the Appalachian portions of states experienced growth similar to that of the states' non-Appalachian portions. However, average earnings tended to be lower in the Appalachian portions. The Appalachian portions of Virginia and South Carolina experienced the fastest growth from 2012 to 2017, at 11.5 and 9.3 percent, respectively. After experiencing faster growth in average earnings than both the Region and the country as a whole during the 2002–2007 period, Appalachian Kentucky experienced the slowest growth in the Region from 2012 to 2017, with average earnings in State and Local Government increasing by just 0.1 percent.



**Table 27: Earnings per employee and percent change, State and Local Government, 2002–2017**

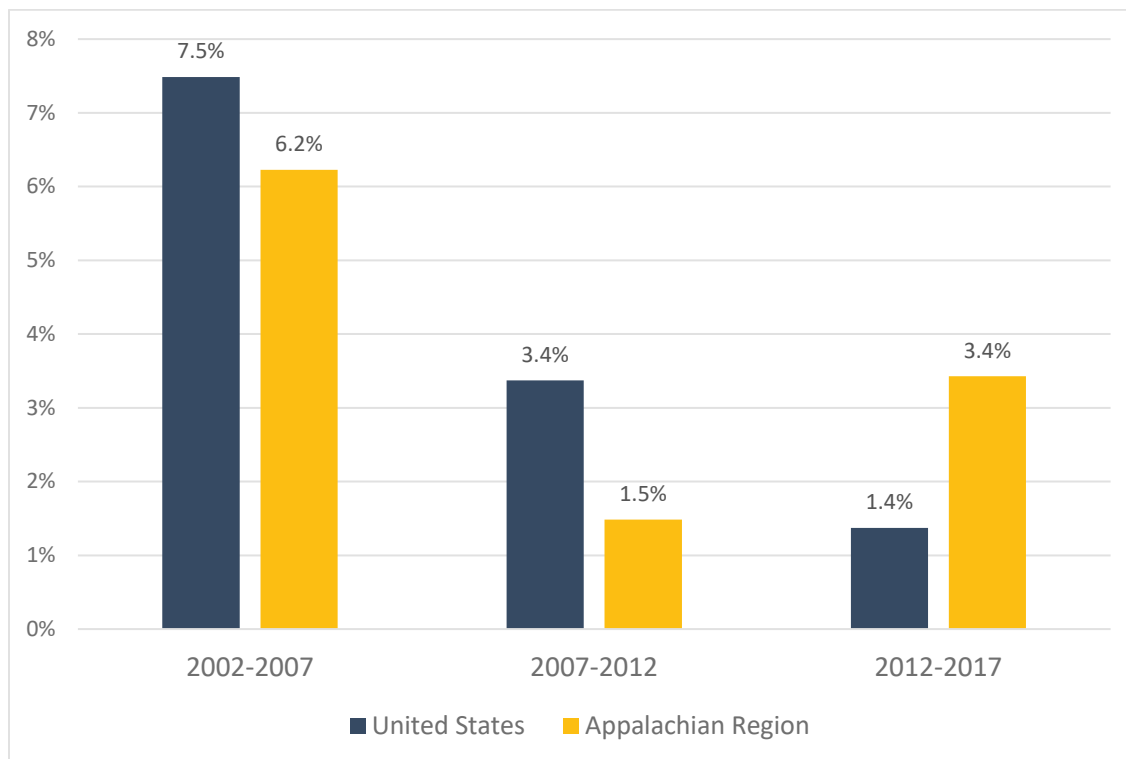
State & Local Government	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$59,340	\$63,655	\$64,604	\$69,677	7.3	1.5	7.9
<b>Appalachian Region</b>	\$51,036	\$54,115	\$54,428	\$58,113	6.0	0.6	6.8
<b>Non-Appalachian U.S.</b>	\$60,035	\$64,460	\$65,466	\$70,626	7.4	1.6	7.9
<b>Subregions</b>							
Northern Appalachia	\$57,755	\$61,755	\$61,763	\$65,971	6.9	0.0	6.8
North Central Appalachia	\$48,075	\$48,705	\$49,491	\$51,485	1.3	1.6	4.0
Central Appalachia	\$41,934	\$45,446	\$45,951	\$46,886	8.4	1.1	2.0
South Central Appalachia	\$46,401	\$49,803	\$50,499	\$54,433	7.3	1.4	7.8
Southern Appalachia	\$49,492	\$52,378	\$52,880	\$57,202	5.8	1.0	8.2
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$58,916	\$60,806	\$60,731	\$65,170	3.2	-0.1	7.3
Small Metros (pop. <1 million)	\$50,697	\$54,216	\$54,684	\$58,582	6.9	0.9	7.1
Nonmetro, Adjacent to Large Metros	\$51,698	\$54,532	\$55,990	\$58,719	5.5	2.7	4.9
Nonmetro, Adjacent to Small Metros	\$47,831	\$50,228	\$50,323	\$53,558	5.0	0.2	6.4
Rural (nonmetro, not adj. to a metro)	\$43,639	\$47,428	\$47,216	\$49,664	8.7	-0.4	5.2
<b>Alabama</b>	\$48,567	\$51,849	\$52,496	\$55,755	6.8	1.2	6.2
Appalachian Alabama	\$48,953	\$52,277	\$52,710	\$56,560	6.8	0.8	7.3
Non-Appalachian Alabama	\$47,960	\$51,174	\$52,153	\$54,434	6.7	1.9	4.4
<b>Georgia</b>	\$53,971	\$53,671	\$55,198	\$59,837	-0.6	2.8	8.4
Appalachian Georgia	\$52,175	\$52,412	\$53,556	\$58,146	0.5	2.2	8.6
Non-Appalachian Georgia	\$54,442	\$54,041	\$55,688	\$60,352	-0.7	3.0	8.4
<b>Kentucky</b>	\$47,834	\$52,750	\$53,681	\$55,305	10.3	1.8	3.0
Appalachian Kentucky	\$42,097	\$46,495	\$46,368	\$46,405	10.4	-0.3	0.1
Non-Appalachian Kentucky	\$49,861	\$54,855	\$56,102	\$58,058	10.0	2.3	3.5
<b>Maryland</b>	\$66,076	\$71,725	\$72,064	\$78,735	8.5	0.5	9.3
Appalachian Maryland	\$58,206	\$61,428	\$61,073	\$66,053	5.5	-0.6	8.2
Non-Appalachian Maryland	\$66,457	\$72,220	\$72,602	\$79,325	8.7	0.5	9.3
<b>Mississippi</b>	\$40,749	\$45,997	\$45,874	\$48,979	12.9	-0.3	6.8
Appalachian Mississippi	\$39,621	\$43,827	\$42,846	\$45,620	10.6	-2.2	6.5
Non-Appalachian Mississippi	\$40,993	\$46,470	\$46,542	\$49,730	13.4	0.2	6.9
<b>New York</b>	\$74,940	\$80,495	\$85,969	\$92,578	7.4	6.8	7.7
Appalachian New York	\$58,277	\$61,305	\$65,576	\$71,488	5.2	7.0	9.0
Non-Appalachian New York	\$76,098	\$81,867	\$87,397	\$94,005	7.6	6.8	7.6
<b>North Carolina</b>	\$51,970	\$56,611	\$54,884	\$58,671	8.9	-3.1	6.9
Appalachian North Carolina	\$47,253	\$50,896	\$48,393	\$51,801	7.7	-4.9	7.0
Non-Appalachian North Carolina	\$52,905	\$57,725	\$56,107	\$59,924	9.1	-2.8	6.8
<b>Ohio</b>	\$55,963	\$58,650	\$62,126	\$65,350	4.8	5.9	5.2
Appalachian Ohio	\$50,009	\$52,560	\$54,358	\$57,002	5.1	3.4	4.9
Non-Appalachian Ohio	\$57,094	\$59,797	\$63,581	\$66,898	4.7	6.3	5.2
<b>Pennsylvania</b>	\$64,466	\$69,466	\$67,915	\$72,193	7.8	-2.2	6.3
Appalachian Pennsylvania	\$59,574	\$64,105	\$62,649	\$66,699	7.6	-2.3	6.5
Non-Appalachian Pennsylvania	\$69,384	\$74,801	\$73,157	\$77,502	7.8	-2.2	5.9
<b>South Carolina</b>	\$49,031	\$54,272	\$55,096	\$60,424	10.7	1.5	9.7
Appalachian South Carolina	\$52,235	\$57,382	\$57,672	\$63,048	9.9	0.5	9.3
Non-Appalachian South Carolina	\$48,089	\$53,333	\$54,300	\$59,570	10.9	1.8	9.7
<b>Tennessee</b>	\$48,517	\$52,068	\$54,421	\$57,124	7.3	4.5	5.0
Appalachian Tennessee	\$45,138	\$48,680	\$51,414	\$54,834	7.8	5.6	6.7
Non-Appalachian Tennessee	\$51,135	\$54,622	\$56,741	\$58,911	6.8	3.9	3.8
<b>Virginia</b>	\$53,065	\$56,941	\$56,882	\$63,461	7.3	-0.1	11.6
Appalachian Virginia	\$45,691	\$47,823	\$49,078	\$54,730	4.7	2.6	11.5
Non-Appalachian Virginia	\$54,025	\$58,097	\$57,851	\$64,549	7.5	-0.4	11.6
<b>West Virginia (entire state)</b>	\$45,923	\$45,725	\$46,414	\$47,961	-0.4	1.5	3.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Manufacturing

Throughout the Appalachian Region, the Manufacturing industry brought in \$85.3 billion in earnings in 2017, accounting for the second-largest share of overall earnings (13.6 percent). Earnings per Appalachian employee in the industry were just 82 percent of the national figure in 2017, with workers in the Region earning an average of \$58,113, compared to the national average of \$69,677. As seen in Figure 63, between 2002 and 2012, growth in earnings per employee in the Region was slower than growth in earnings per employee at the national level. However, Appalachia's growth in average earnings of 3.4 percent between 2012 and 2017 outpaced the country's (1.4 percent growth).

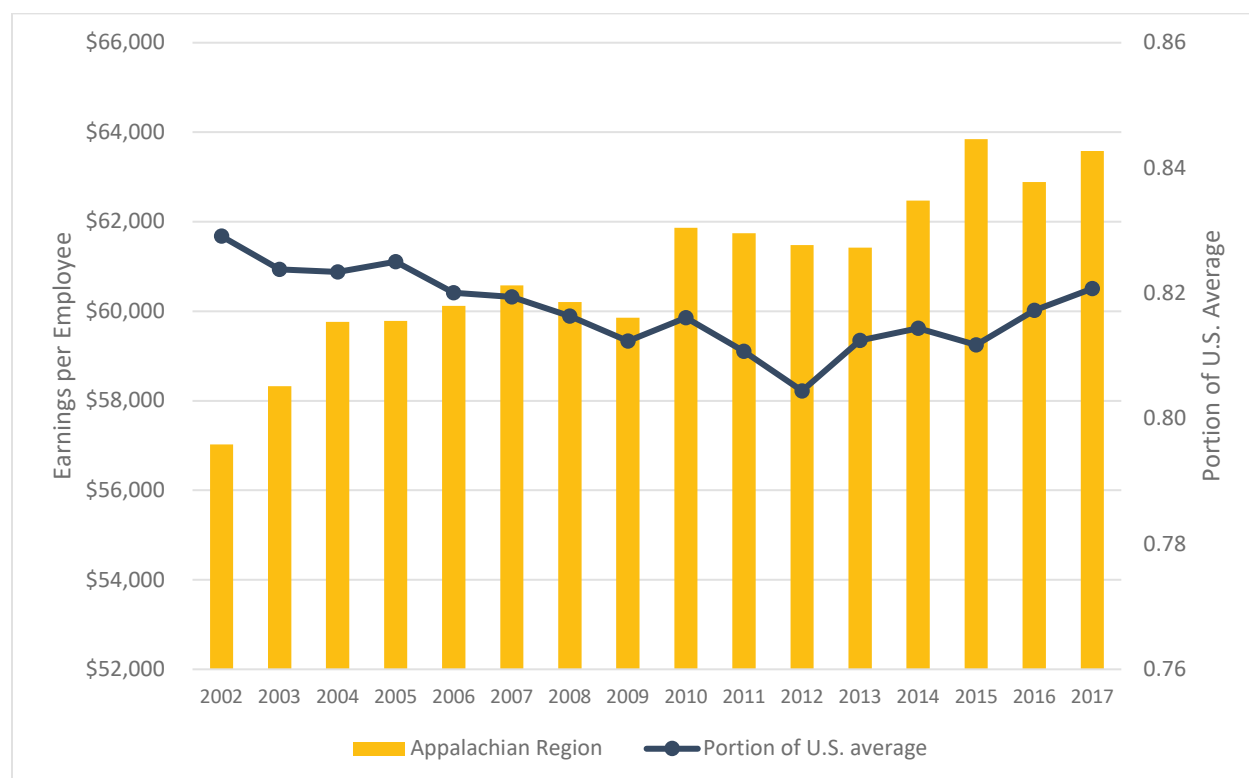
**Figure 63: Percent change in earnings per employee, Manufacturing, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 64, average earnings in Appalachia as a percentage of the national average dropped from 83 percent in 2002 to 80 percent in 2012. Since then, however, earnings per employee in the Region have increased relative to the national average, coming in at 82 percent of the national figure in 2017.

**Figure 64: Earnings per employee in Appalachia, Manufacturing, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 28 displays earnings per employee throughout the Region. When we consider the most recent 2012–2017 time period, we see that Southern Appalachia enjoyed the fastest growth in earnings per employee among the subregions, at 5.2 percent. South Central Appalachia, meanwhile, reported the lowest, at 2.1 percent. In 2017, North Central Appalachia had the highest average earnings among the subregions, at \$67,145. Nonmetro areas adjacent to metro areas throughout the Region experienced the fastest growth during the 2012–2017 period: 6.4 percent for those adjacent to *large* metro areas, and 5.8 percent for those adjacent to *small* metro areas.

The Appalachian portions of Georgia (6.5 percent), South Carolina (5.3 percent), and Mississippi (5.2 percent) saw the largest growth in earnings per employee from 2012 to 2017. The Appalachian portions of Virginia (0.4 percent) and Ohio (0.7 percent) saw only modest growth in average earnings, while Appalachian Maryland experienced a decline of 3.1 percent.

**Table 28: Earnings per employee and percent change, Manufacturing, 2002–2017**

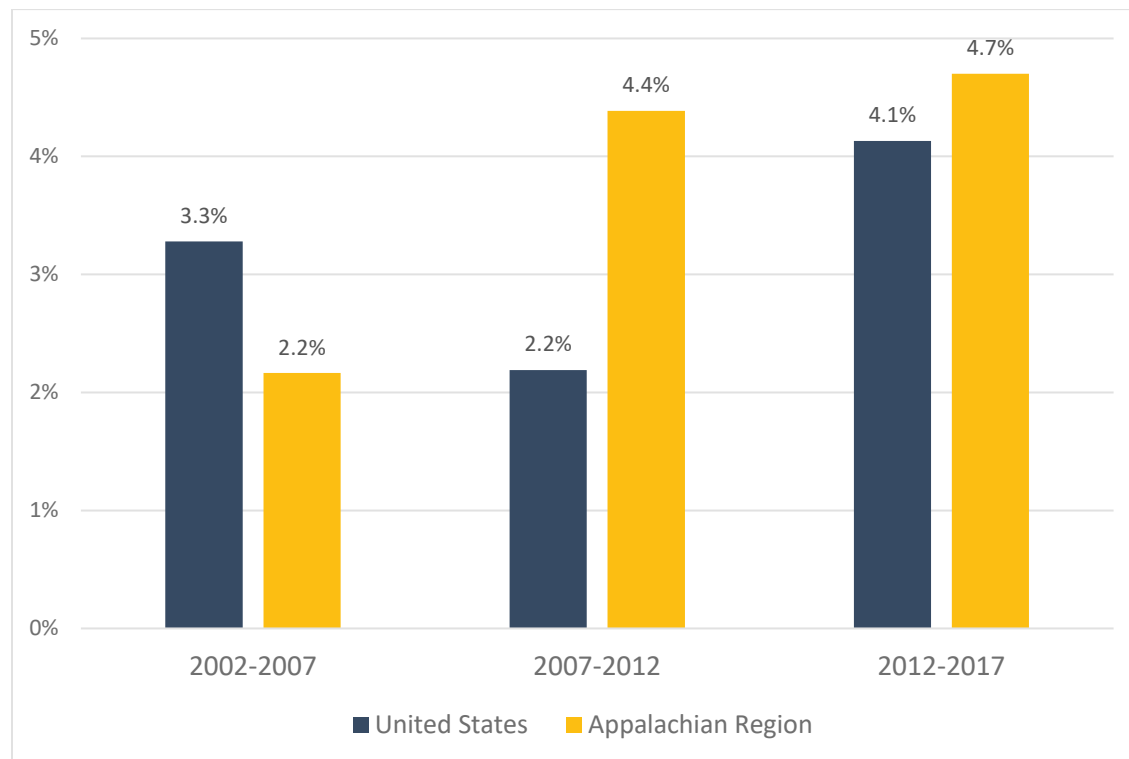
Manufacturing	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$68,777	\$73,925	\$76,420	\$77,469	7.5	3.4	1.4
<b>Appalachian Region</b>	\$57,023	\$60,575	\$61,475	\$63,583	6.2	1.5	3.4
<b>Non-Appalachian U.S.</b>	\$70,191	\$75,481	\$78,098	\$79,026	7.5	3.5	1.2
<b>Subregions</b>							
Northern Appalachia	\$60,604	\$65,221	\$64,298	\$66,052	7.6	-1.4	2.7
North Central Appalachia	\$61,787	\$63,090	\$64,397	\$67,145	2.1	2.1	4.3
Central Appalachia	\$50,755	\$52,696	\$54,917	\$57,038	3.8	4.2	3.9
South Central Appalachia	\$54,092	\$58,555	\$60,741	\$61,990	8.3	3.7	2.1
Southern Appalachia	\$55,655	\$58,285	\$59,758	\$62,883	4.7	2.5	5.2
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$64,826	\$67,836	\$66,806	\$69,119	4.6	-1.5	3.5
Small Metros (pop. <1 million)	\$61,589	\$65,537	\$66,265	\$67,764	6.4	1.1	2.3
Nonmetro, Adjacent to Large Metros	\$51,284	\$55,630	\$56,811	\$60,445	8.5	2.1	6.4
Nonmetro, Adjacent to Small Metros	\$48,855	\$51,665	\$53,286	\$56,402	5.8	3.1	5.8
Rural (nonmetro, not adj. to a metro)	\$46,427	\$48,496	\$50,256	\$51,714	4.5	3.6	2.9
<b>Alabama</b>	\$55,015	\$59,068	\$61,168	\$63,811	7.4	3.6	4.3
Appalachian Alabama	\$55,278	\$59,398	\$60,537	\$62,898	7.5	1.9	3.9
Non-Appalachian Alabama	\$54,440	\$58,369	\$62,386	\$65,671	7.2	6.9	5.3
<b>Georgia</b>	\$60,314	\$62,773	\$65,574	\$67,682	4.1	4.5	3.2
Appalachian Georgia	\$55,980	\$56,947	\$57,197	\$60,926	1.7	0.4	6.5
Non-Appalachian Georgia	\$62,794	\$66,598	\$71,124	\$72,275	6.1	6.8	1.6
<b>Kentucky</b>	\$63,069	\$65,526	\$66,555	\$66,872	3.9	1.6	0.5
Appalachian Kentucky	\$46,859	\$49,617	\$51,699	\$53,926	5.9	4.2	4.3
Non-Appalachian Kentucky	\$66,767	\$69,096	\$69,888	\$69,530	3.5	1.1	-0.5
<b>Maryland</b>	\$75,185	\$79,563	\$81,804	\$84,809	5.8	2.8	3.7
Appalachian Maryland	\$77,768	\$62,107	\$66,054	\$63,993	-20.1	6.4	-3.1
Non-Appalachian Maryland	\$74,933	\$81,170	\$83,328	\$86,900	8.3	2.7	4.3
<b>Mississippi</b>	\$48,400	\$51,889	\$55,675	\$57,608	7.2	7.3	3.5
Appalachian Mississippi	\$46,895	\$47,227	\$50,383	\$53,021	0.7	6.7	5.2
Non-Appalachian Mississippi	\$49,264	\$54,186	\$58,435	\$59,989	10.0	7.8	2.7
<b>New York</b>	\$71,251	\$75,702	\$75,683	\$77,750	6.2	0.0	2.7
Appalachian New York	\$64,433	\$66,953	\$69,011	\$72,022	3.9	3.1	4.4
Non-Appalachian New York	\$72,075	\$76,871	\$76,587	\$78,477	6.7	-0.4	2.5
<b>North Carolina</b>	\$59,371	\$64,955	\$66,638	\$68,068	9.4	2.6	2.1
Appalachian North Carolina	\$52,317	\$56,284	\$55,329	\$57,647	7.6	-1.7	4.2
Non-Appalachian North Carolina	\$61,212	\$67,000	\$69,066	\$70,401	9.5	3.1	1.9
<b>Ohio</b>	\$67,658	\$72,450	\$71,232	\$72,672	7.1	-1.7	2.0
Appalachian Ohio	\$61,089	\$69,115	\$62,604	\$63,027	13.1	-9.4	0.7
Non-Appalachian Ohio	\$68,793	\$73,002	\$72,639	\$74,132	6.1	-0.5	2.1
<b>Pennsylvania</b>	\$67,010	\$70,088	\$70,554	\$72,609	4.6	0.7	2.9
Appalachian Pennsylvania	\$58,677	\$63,274	\$63,438	\$65,714	7.8	0.3	3.6
Non-Appalachian Pennsylvania	\$74,218	\$76,234	\$76,883	\$78,525	2.7	0.9	2.1
<b>South Carolina</b>	\$58,095	\$62,956	\$66,208	\$70,774	8.4	5.2	6.9
Appalachian South Carolina	\$61,348	\$65,298	\$68,075	\$71,717	6.4	4.3	5.3
Non-Appalachian South Carolina	\$56,126	\$61,668	\$65,108	\$70,200	9.9	5.6	7.8
<b>Tennessee</b>	\$62,394	\$63,220	\$68,865	\$69,957	1.3	8.9	1.6
Appalachian Tennessee	\$57,063	\$60,512	\$64,310	\$65,219	6.0	6.3	1.4
Non-Appalachian Tennessee	\$67,447	\$65,735	\$73,278	\$74,438	-2.5	11.5	1.6
<b>Virginia</b>	\$60,751	\$66,504	\$68,107	\$66,646	9.5	2.4	-2.1
Appalachian Virginia	\$49,541	\$55,815	\$57,572	\$57,811	12.7	3.1	0.4
Non-Appalachian Virginia	\$63,319	\$68,916	\$70,264	\$68,402	8.8	2.0	-2.6
<b>West Virginia (entire state)</b>	\$63,170	\$63,463	\$66,147	\$68,868	0.5	4.2	4.1

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Health and Social Services

Employees in the Health and Social Services industry in Appalachia earned \$84.1 billion in 2017, which accounted for 13.4 percent of total earnings in Appalachia. Earnings per employee were \$53,807 in 2017, which, at 96 percent of the U.S. average, makes it one of the industries with only a small discrepancy in average earnings between the Region and the country overall. In Figure 65, we see that average earnings in the Health and Social Services sector grew at a faster rate in Appalachia than in the country overall during both the 2007–2012 and 2012–2017 periods.

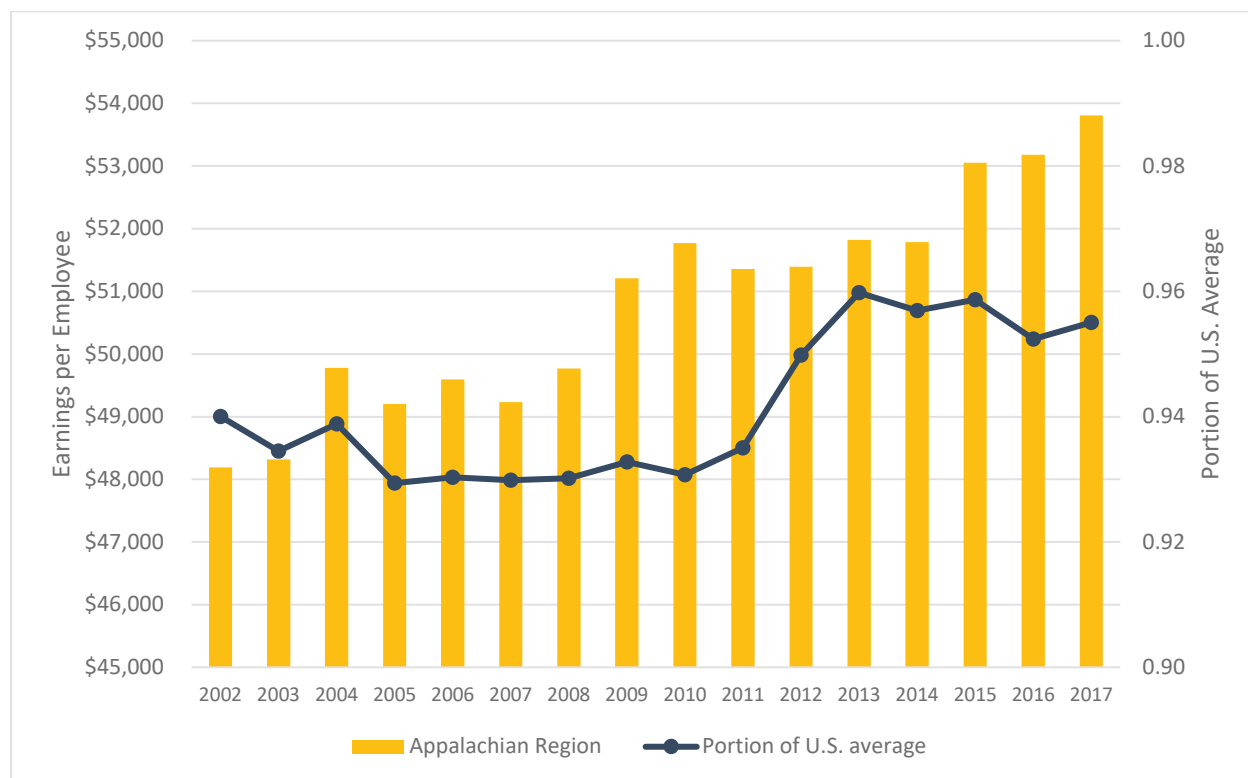
**Figure 65: Percent change in earnings per employee, Health and Social Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 66 charts the changes in earnings per Appalachian employee since 2002, with the most notable period of growth—in terms of relative performance to the United States as a whole—coming between 2010 and 2013, during which earnings per employee in Appalachia grew from 93 percent of the national average to 96 percent.

**Figure 66: Earnings per employee in Appalachia, Health and Social Services, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 29 shows earnings per employee throughout the Region. By and large, average earnings and changes throughout the years were comparable across the five subregions. Southern Appalachia, though it had the second-highest average earnings in 2017, reported the slowest growth in each of the three time periods. Rural areas experienced the fastest growth based on metro designation from 2012 to 2017, at 5.9 percent.

From 2012 to 2017, West Virginia experienced the fastest growth in average earnings throughout the Region, at 7.3 percent, with the Appalachian portions of North Carolina (7.1) and Georgia (6.7 percent) not far behind. Appalachian Tennessee had the highest earnings per employee in the industry in 2017, at \$61,687, though this was much less than the earnings per employee in the non-Appalachian portion of the state (\$92,158). Appalachian Virginia had lowest average earnings in the Region (\$44,797) and the second-slowest rate of growth during the 2012–2017 period (2.5 percent), which was faster than only Appalachian South Carolina (1.3 percent).

**Table 29: Earnings per employee and percent change, Health and Social Services, 2002–2017**

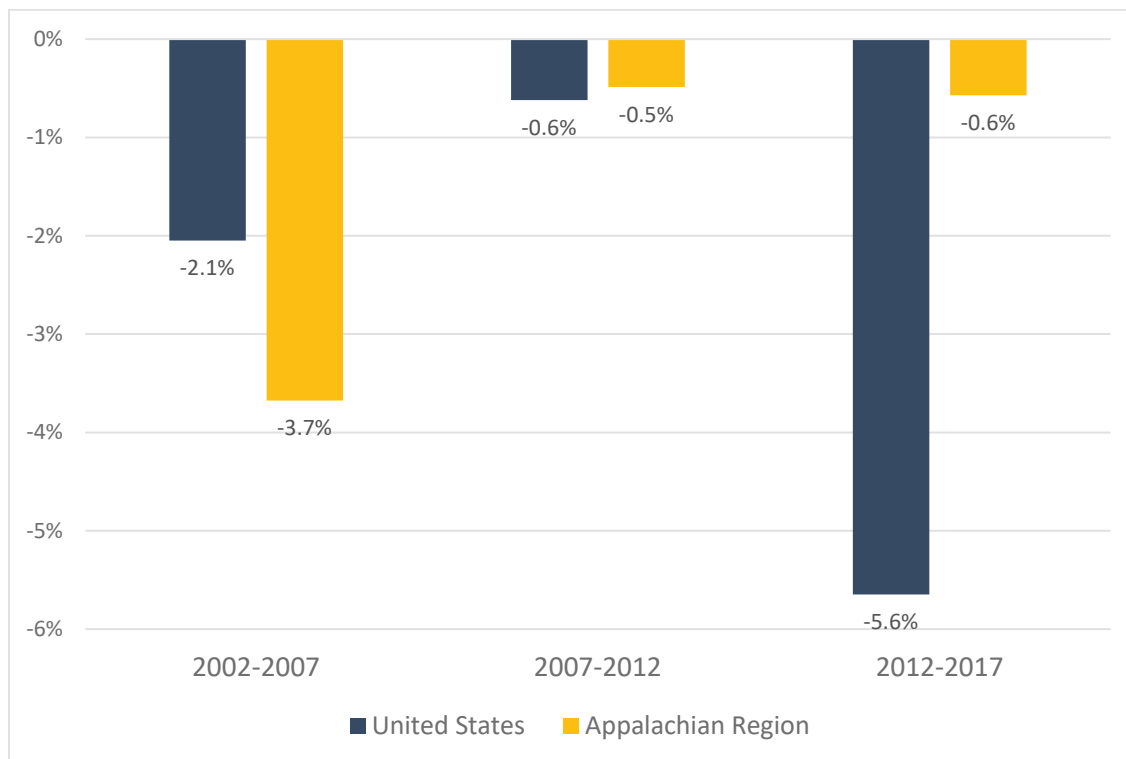
Health, Social Services	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$51,264	\$52,945	\$54,104	\$56,340	3.3	2.2	4.1
<b>Appalachian Region</b>	\$48,188	\$49,231	\$51,391	\$53,807	2.2	4.4	4.7
<b>Non-Appalachian U.S.</b>	\$51,522	\$53,256	\$54,321	\$56,531	3.4	2.0	4.1
<b>Subregions</b>							
Northern Appalachia	\$47,091	\$48,250	\$50,432	\$52,781	2.5	4.5	4.7
North Central Appalachia	\$45,245	\$47,291	\$49,303	\$52,437	4.5	4.3	6.4
Central Appalachia	\$43,002	\$44,825	\$47,228	\$49,123	4.2	5.4	4.0
South Central Appalachia	\$50,325	\$51,334	\$54,596	\$57,181	2.0	6.4	4.7
Southern Appalachia	\$51,734	\$51,447	\$52,540	\$54,536	-0.6	2.1	3.8
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$52,732	\$53,522	\$55,488	\$57,861	1.5	3.7	4.3
Small Metros (pop. <1 million)	\$50,224	\$51,359	\$53,799	\$56,236	2.3	4.7	4.5
Nonmetro, Adjacent to Large Metros	\$42,003	\$41,724	\$43,880	\$45,108	-0.7	5.2	2.8
Nonmetro, Adjacent to Small Metros	\$40,978	\$41,885	\$43,333	\$45,225	2.2	3.5	4.4
Rural (nonmetro, not adj. to a metro)	\$42,280	\$44,166	\$45,895	\$48,594	4.5	3.9	5.9
<b>Alabama</b>	\$52,455	\$51,879	\$53,383	\$54,959	-1.1	2.9	3.0
Appalachian Alabama	\$55,385	\$54,229	\$56,724	\$58,651	-2.1	4.6	3.4
Non-Appalachian Alabama	\$47,234	\$47,752	\$47,571	\$48,597	1.1	-0.4	2.2
<b>Georgia</b>	\$51,754	\$51,556	\$52,256	\$55,029	-0.4	1.4	5.3
Appalachian Georgia	\$48,330	\$48,944	\$48,483	\$51,717	1.3	-0.9	6.7
Non-Appalachian Georgia	\$52,590	\$52,261	\$53,316	\$56,021	-0.6	2.0	5.1
<b>Kentucky</b>	\$49,147	\$50,329	\$52,595	\$54,792	2.4	4.5	4.2
Appalachian Kentucky	\$43,994	\$45,820	\$48,615	\$50,695	4.2	6.1	4.3
Non-Appalachian Kentucky	\$50,810	\$51,764	\$53,834	\$56,008	1.9	4.0	4.0
<b>Maryland</b>	\$51,344	\$54,197	\$55,769	\$57,709	5.6	2.9	3.5
Appalachian Maryland	\$45,590	\$49,315	\$50,326	\$53,097	8.2	2.1	5.5
Non-Appalachian Maryland	\$51,662	\$54,452	\$56,044	\$57,930	5.4	2.9	3.4
<b>Mississippi</b>	\$48,199	\$48,732	\$48,314	\$47,907	1.1	-0.9	-0.8
Appalachian Mississippi	\$45,321	\$47,411	\$47,043	\$48,310	4.6	-0.8	2.7
Non-Appalachian Mississippi	\$48,938	\$49,071	\$48,631	\$47,804	0.3	-0.9	-1.7
<b>New York</b>	\$51,478	\$53,533	\$55,034	\$57,223	4.0	2.8	4.0
Appalachian New York	\$42,298	\$44,686	\$47,906	\$50,395	5.6	7.2	5.2
Non-Appalachian New York	\$51,976	\$53,983	\$55,381	\$57,524	3.9	2.6	3.9
<b>North Carolina</b>	\$48,428	\$47,959	\$50,021	\$53,249	-1.0	4.3	6.5
Appalachian North Carolina	\$47,456	\$47,753	\$49,468	\$52,999	0.6	3.6	7.1
Non-Appalachian North Carolina	\$48,707	\$48,015	\$50,167	\$53,318	-1.4	4.5	6.3
<b>Ohio</b>	\$48,644	\$49,991	\$50,974	\$53,680	2.8	2.0	5.3
Appalachian Ohio	\$42,247	\$43,574	\$44,916	\$46,506	3.1	3.1	3.5
Non-Appalachian Ohio	\$49,767	\$51,089	\$51,959	\$54,799	2.7	1.7	5.5
<b>Pennsylvania</b>	\$51,587	\$53,287	\$54,911	\$56,539	3.3	3.0	3.0
Appalachian Pennsylvania	\$48,782	\$49,550	\$51,870	\$54,263	1.6	4.7	4.6
Non-Appalachian Pennsylvania	\$53,916	\$56,347	\$57,298	\$58,185	4.5	1.7	1.5
<b>South Carolina</b>	\$48,633	\$49,609	\$50,132	\$52,054	2.0	1.1	3.8
Appalachian South Carolina	\$50,533	\$50,504	\$52,424	\$53,102	-0.1	3.8	1.3
Non-Appalachian South Carolina	\$48,038	\$49,339	\$49,424	\$51,710	2.7	0.2	4.6
<b>Tennessee</b>	\$60,060	\$62,503	\$72,422	\$80,451	4.1	15.9	11.1
Appalachian Tennessee	\$53,342	\$54,667	\$59,442	\$61,687	2.5	8.7	3.8
Non-Appalachian Tennessee	\$64,692	\$67,922	\$81,009	\$92,158	5.0	19.3	13.8
<b>Virginia</b>	\$49,773	\$53,295	\$54,431	\$56,680	7.1	2.1	4.1
Appalachian Virginia	\$42,961	\$44,272	\$43,688	\$44,797	3.1	-1.3	2.5
Non-Appalachian Virginia	\$50,421	\$54,120	\$55,319	\$57,570	7.3	2.2	4.1
<b>West Virginia (entire state)</b>	\$46,107	\$48,268	\$49,977	\$53,648	4.7	3.5	7.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Wholesale Trade and Transportation

Throughout Appalachia, employees engaged in Wholesale Trade and Transportation earned \$70.6 billion in 2017, accounting for 11.3 percent of the Region's overall earnings. Earnings per employee in Appalachia were \$80,686, which came close to matching the national average of \$83,878 (the Region's figure was 96 percent of the national number). Over recent years, earnings per employee has declined in both Appalachia and the United States overall. Of note, however, is that the Region performed relatively better than the country overall during both the 2007–2012 and 2012–2017 periods—its *declines* in average earnings were relatively *smaller* than what occurred in the country overall.

**Figure 67: Percent change in earnings per employee, Wholesale Trade and Transportation, 2002–2007, 2007–2012, and 2012–2017**

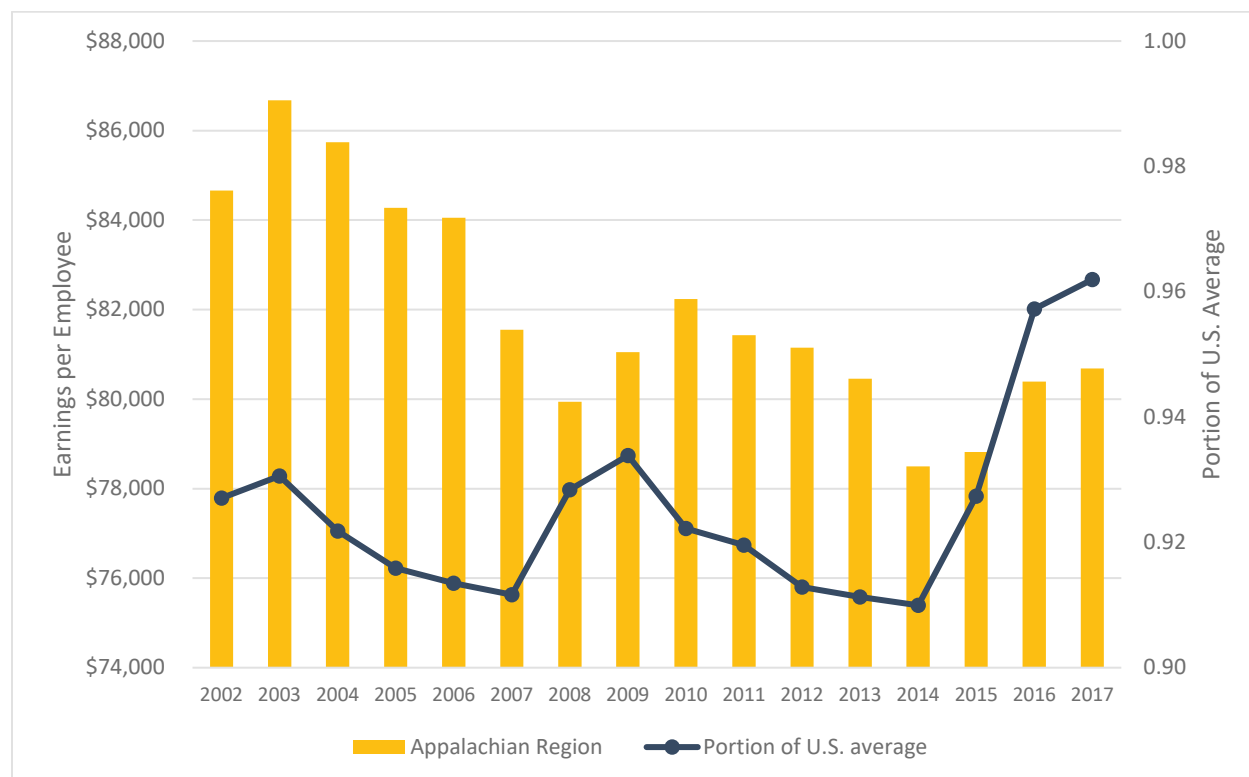


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



As seen in Figure 68, from 2009 to 2014, Appalachia’s average earnings in Wholesale Trade and Transportation declined compared to the nation as a whole (93 percent of the national average in 2009 to 91 percent in 2014). This number has since increased to 96 percent, as of 2017.

**Figure 68: Earnings per employee in Appalachia, Wholesale Trade and Transportation, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 30 shows us earnings per employee and growth rates throughout the Region. Two subregions experienced earnings growth during the 2012–2017 period: South Central (4.7 percent) and Central Appalachia (1.9 percent). The North Central subregion, though it saw a decline of 1.4 percent in average earnings from 2012 to 2017, had the highest earnings per employee in 2017—\$86,843. Large metro areas throughout the Region saw the largest decline over the most recent time period, with average earnings falling 4.1 percent.

The Appalachian portions of North Carolina (9.1 percent) and Ohio (5.4 percent) saw the largest growth in Wholesale Trade and Transportation average earnings from 2012 to 2017. Appalachian Pennsylvania saw the largest decline, with average earnings decreasing 5.9 percent over the time period, dropping from \$76,865 to \$72,298.

**Table 30: Earnings per employee and percent change, Wholesale Trade, Transportation, 2002–2017**

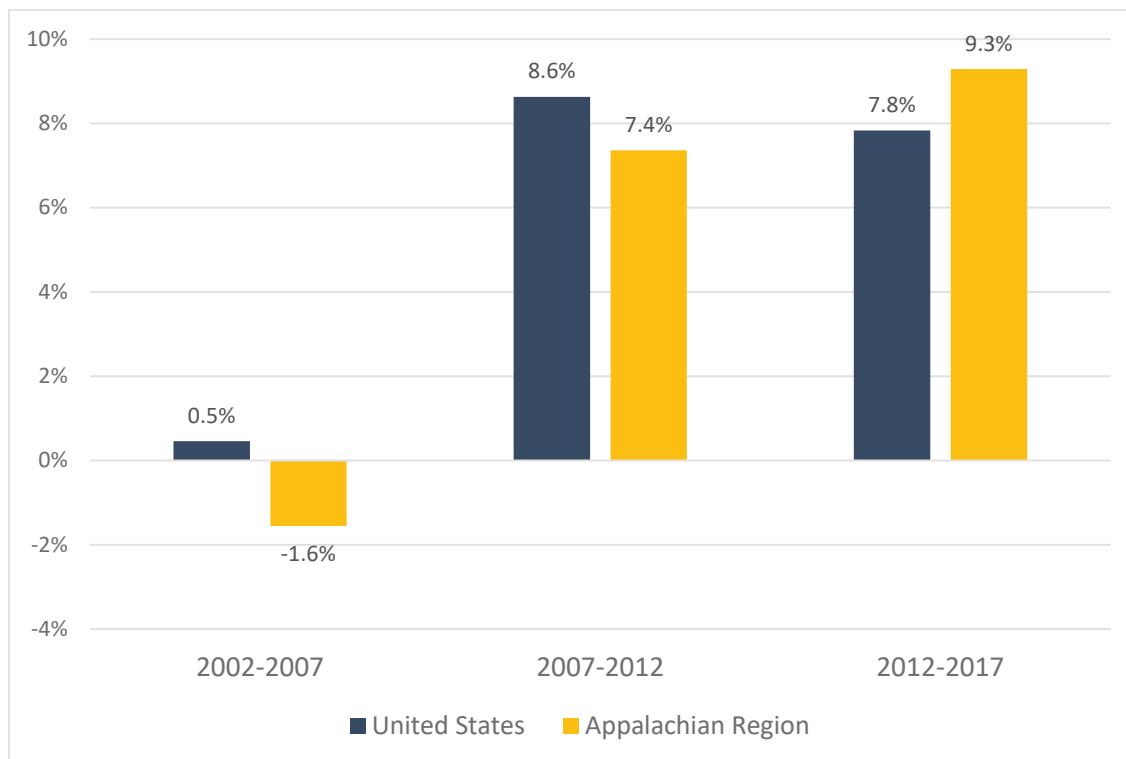
Wholesale Trade, Transportation	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$91,323	\$89,451	\$88,898	\$83,878	-2.1	-0.6	-5.6
<b>Appalachian Region</b>	\$84,661	\$81,548	\$81,151	\$80,686	-3.7	-0.5	-0.6
<b>Non-Appalachian U.S.</b>	\$91,824	\$90,039	\$89,463	\$84,088	-1.9	-0.6	-6.0
<b>Subregions</b>							
Northern Appalachia	\$82,620	\$77,459	\$78,063	\$75,279	-6.2	0.8	-3.6
North Central Appalachia	\$93,883	\$86,004	\$88,057	\$86,843	-8.4	2.4	-1.4
Central Appalachia	\$70,763	\$67,735	\$72,777	\$74,126	-4.3	7.4	1.9
South Central Appalachia	\$77,794	\$78,455	\$79,475	\$83,205	0.8	1.3	4.7
Southern Appalachia	\$91,685	\$89,050	\$85,200	\$84,271	-2.9	-4.3	-1.1
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$96,268	\$93,968	\$92,063	\$88,248	-2.4	-2.0	-4.1
Small Metros (pop. <1 million)	\$81,102	\$79,851	\$79,250	\$80,071	-1.5	-0.8	1.0
Nonmetro, Adjacent to Large Metros	\$79,934	\$72,781	\$74,049	\$72,047	-8.9	1.7	-2.7
Nonmetro, Adjacent to Small Metros	\$78,267	\$71,423	\$70,862	\$71,863	-8.7	-0.8	1.4
Rural (nonmetro, not adj. to a metro)	\$78,896	\$72,271	\$75,951	\$76,907	-8.4	5.1	1.3
<b>Alabama</b>	\$84,605	\$83,377	\$82,283	\$83,301	-1.5	-1.3	1.2
Appalachian Alabama	\$90,503	\$89,161	\$87,935	\$87,937	-1.5	-1.4	0.0
Non-Appalachian Alabama	\$74,774	\$73,610	\$72,522	\$75,432	-1.6	-1.5	4.0
<b>Georgia</b>	\$85,257	\$80,597	\$75,098	\$73,669	-5.5	-6.8	-1.9
Appalachian Georgia	\$98,966	\$94,495	\$86,588	\$85,330	-4.5	-8.4	-1.5
Non-Appalachian Georgia	\$81,119	\$76,145	\$71,326	\$69,760	-6.1	-6.3	-2.2
<b>Kentucky</b>	\$68,696	\$65,055	\$63,880	\$61,266	-5.3	-1.8	-4.1
Appalachian Kentucky	\$73,368	\$67,887	\$72,460	\$72,328	-7.5	6.7	-0.2
Non-Appalachian Kentucky	\$67,728	\$64,512	\$62,370	\$59,598	-4.7	-3.3	-4.4
<b>Maryland</b>	\$103,491	\$100,582	\$99,647	\$82,534	-2.8	-0.9	-17.2
Appalachian Maryland	\$80,747	\$73,423	\$71,494	\$71,115	-9.1	-2.6	-0.5
Non-Appalachian Maryland	\$104,691	\$102,047	\$101,301	\$83,101	-2.5	-0.7	-18.0
<b>Mississippi</b>	\$76,582	\$73,744	\$75,152	\$72,214	-3.7	1.9	-3.9
Appalachian Mississippi	\$73,265	\$62,766	\$69,022	\$66,544	-14.3	10.0	-3.6
Non-Appalachian Mississippi	\$77,450	\$76,836	\$76,800	\$73,651	-0.8	0.0	-4.1
<b>New York</b>	\$98,539	\$99,671	\$99,459	\$93,337	1.1	-0.2	-6.2
Appalachian New York	\$89,917	\$95,531	\$96,919	\$99,921	6.2	1.5	3.1
Non-Appalachian New York	\$98,866	\$99,821	\$99,546	\$93,144	1.0	-0.3	-6.4
<b>North Carolina</b>	\$87,692	\$87,663	\$87,031	\$87,103	0.0	-0.7	0.1
Appalachian North Carolina	\$86,454	\$87,247	\$84,841	\$93,262	0.9	-2.8	9.9
Non-Appalachian North Carolina	\$87,915	\$87,734	\$87,384	\$86,252	-0.2	-0.4	-1.3
<b>Ohio</b>	\$88,855	\$76,944	\$80,748	\$79,211	-13.4	4.9	-1.9
Appalachian Ohio	\$88,358	\$76,069	\$75,918	\$79,995	-13.9	-0.2	5.4
Non-Appalachian Ohio	\$88,918	\$77,058	\$81,398	\$79,114	-13.3	5.6	-2.8
<b>Pennsylvania</b>	\$89,775	\$85,816	\$84,619	\$75,655	-4.4	-1.4	-10.6
Appalachian Pennsylvania	\$81,062	\$76,306	\$76,865	\$72,298	-5.9	0.7	-5.9
Non-Appalachian Pennsylvania	\$96,405	\$92,789	\$90,347	\$77,789	-3.8	-2.6	-13.9
<b>South Carolina</b>	\$92,824	\$92,272	\$88,907	\$84,638	-0.6	-3.6	-4.8
Appalachian South Carolina	\$86,052	\$87,792	\$82,987	\$81,495	2.0	-5.5	-1.8
Non-Appalachian South Carolina	\$96,177	\$94,418	\$91,855	\$86,099	-1.8	-2.7	-6.3
<b>Tennessee</b>	\$68,829	\$71,362	\$72,384	\$72,572	3.7	1.4	0.3
Appalachian Tennessee	\$71,649	\$73,395	\$76,338	\$78,420	2.4	4.0	2.7
Non-Appalachian Tennessee	\$67,320	\$70,288	\$70,411	\$69,834	4.4	0.2	-0.8
<b>Virginia</b>	\$90,509	\$92,707	\$91,226	\$81,902	2.4	-1.6	-10.2
Appalachian Virginia	\$84,690	\$82,222	\$83,606	\$84,568	-2.9	1.7	1.2
Non-Appalachian Virginia	\$90,943	\$93,486	\$91,793	\$81,743	2.8	-1.8	-10.9
<b>West Virginia (entire state)</b>	\$90,671	\$83,455	\$88,258	\$86,680	-8.0	5.8	-1.8

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Professional and Technical Services

Employees throughout the Region engaged in Professional and Technical Services earned \$69.8 billion in 2017, which accounted for 11.1 percent of total earnings in Appalachia. With the average Appalachian engaged in the industry earning \$43,107 in 2017, a large discrepancy existed between the Region and the United States as a whole; the number for Appalachia was just 70 percent of the national average (\$61,372). As we see in Figure 69, despite worse relative performance in the two earlier time periods, growth in average earnings in Appalachia outpaced the country as a whole during the 2012–2017 period (9.3 percent in Appalachia, compared to 7.8 percent in the country as a whole).

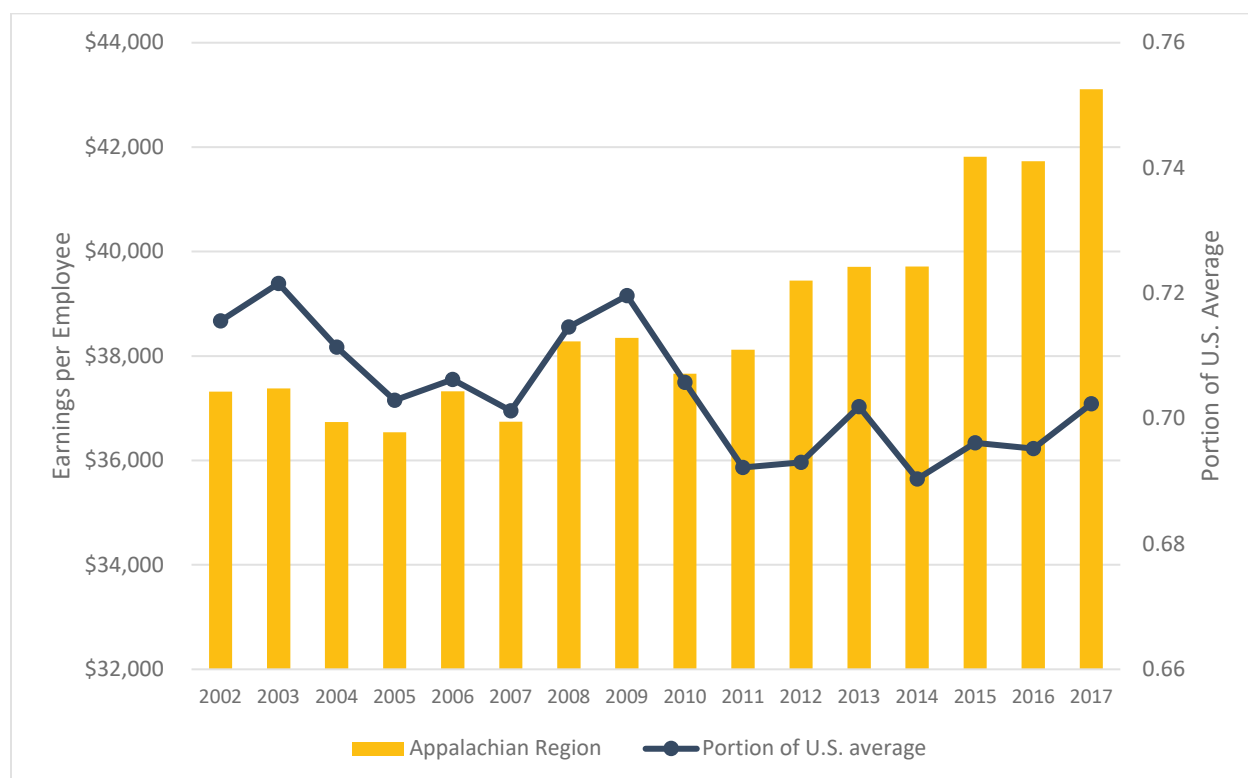
**Figure 69: Percent change in earnings per employee, Professional and Technical Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Earnings per employee in Appalachia as a percentage of the national average is shown in Figure 70. A slight decline occurred from 2009 to 2011, when the Region’s average earnings as a percentage of the U.S. figure dropped from 72 percent to 69 percent. A slight increase has occurred since then, with this value rising to 70 percent in 2017.

**Figure 70: Earnings per employee in Appalachia, Professional and Technical Services, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 31 shows earnings per Professional and Technical Services employee throughout the Region. Earnings in 2017 varied a great deal across the subregions, from a low of \$28,391 in Central Appalachia to a high of \$52,869 in Northern Appalachia. Central Appalachia experienced a large decline in average earnings during the most recent time period, dropping 6.8 percent from 2012 to 2017. Southern Appalachia saw the largest increase over the time period, with average earnings increasing 14.1 percent. While variations in average earnings based on metro status may be expected, the disparities in the Professional and Technical Services industry were particularly large; in 2017, average earnings in rural areas were \$25,222, much less than the \$56,212 earned in large metro areas. Rural areas were also the only metro designation to experience a decline in earnings per employee from 2012 to 2017, with a decrease of 2.6 percent.

When we consider earnings growth rates for the Appalachian portions of states, we see that it was a story of extremes during the 2012–2017 period, with several states reporting either large growth or large declines. For example, average earnings grew considerably in the Appalachian portions of Maryland (30 percent) and Georgia (23.1 percent), while they declined substantially in the Appalachian portions of Virginia (17.9 percent decline) and Kentucky (6.1 percent decline).

**Table 31: Earnings per employee and percent change, Professional and Technical Services, 2002–2017**

Professional, Technical Services	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$52,151	\$52,392	\$56,914	\$61,372	0.5	8.6	7.8
<b>Appalachian Region</b>	\$37,321	\$36,741	\$39,445	\$43,107	-1.6	7.4	9.3
<b>Non-Appalachian U.S.</b>	\$53,040	\$53,361	\$58,019	\$62,473	0.6	8.7	7.7
<b>Subregions</b>							
Northern Appalachia	\$41,796	\$44,628	\$48,483	\$52,869	6.8	8.6	9.0
North Central Appalachia	\$28,873	\$30,370	\$36,917	\$37,172	5.2	21.6	0.7
Central Appalachia	\$29,037	\$27,346	\$30,456	\$28,391	-5.8	11.4	-6.8
South Central Appalachia	\$33,500	\$32,571	\$36,507	\$39,898	-2.8	12.1	9.3
Southern Appalachia	\$37,972	\$34,267	\$34,576	\$39,466	-9.8	0.9	14.1
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$45,904	\$48,269	\$52,113	\$56,212	5.2	8.0	7.9
Small Metros (pop. <1 million)	\$36,973	\$34,066	\$36,788	\$40,675	-7.9	8.0	10.6
Nonmetro, Adjacent to Large Metros	\$30,538	\$31,315	\$30,634	\$33,391	2.5	-2.2	9.0
Nonmetro, Adjacent to Small Metros	\$22,850	\$22,178	\$24,721	\$26,401	-2.9	11.5	6.8
Rural (nonmetro, not adj. to a metro)	\$25,064	\$24,412	\$25,887	\$25,222	-2.6	6.0	-2.6
<b>Alabama</b>	\$36,459	\$36,754	\$36,891	\$41,380	0.8	0.4	12.2
Appalachian Alabama	\$39,868	\$40,992	\$42,035	\$46,428	2.8	2.5	10.5
Non-Appalachian Alabama	\$29,160	\$27,724	\$25,914	\$30,632	-4.9	-6.5	18.2
<b>Georgia</b>	\$48,861	\$43,252	\$42,162	\$47,949	-11.5	-2.5	13.7
Appalachian Georgia	\$34,639	\$30,362	\$31,106	\$38,278	-12.3	2.5	23.1
Non-Appalachian Georgia	\$52,799	\$47,444	\$45,678	\$50,985	-10.1	-3.7	11.6
<b>Kentucky</b>	\$35,163	\$33,673	\$36,125	\$37,047	-4.2	7.3	2.6
Appalachian Kentucky	\$24,526	\$21,913	\$24,903	\$23,305	-10.7	13.6	-6.4
Non-Appalachian Kentucky	\$37,098	\$35,754	\$38,238	\$39,404	-3.6	6.9	3.0
<b>Maryland</b>	\$57,256	\$58,492	\$68,851	\$76,335	2.2	17.7	10.9
Appalachian Maryland	\$30,454	\$30,006	\$31,433	\$40,976	-1.5	4.8	30.4
Non-Appalachian Maryland	\$57,806	\$59,098	\$69,671	\$77,071	2.2	17.9	10.6
<b>Mississippi</b>	\$33,054	\$29,545	\$28,756	\$28,293	-10.6	-2.7	-1.6
Appalachian Mississippi	\$24,247	\$22,017	\$19,812	\$20,127	-9.2	-10.0	1.6
Non-Appalachian Mississippi	\$34,958	\$31,097	\$30,859	\$30,074	-11.0	-0.8	-2.5
<b>New York</b>	\$81,575	\$80,569	\$81,447	\$88,575	-1.2	1.1	8.8
Appalachian New York	\$35,402	\$38,486	\$41,622	\$46,836	8.7	8.1	12.5
Non-Appalachian New York	\$83,190	\$81,954	\$82,652	\$89,685	-1.5	0.9	8.5
<b>North Carolina</b>	\$41,219	\$42,529	\$43,593	\$49,283	3.2	2.5	13.1
Appalachian North Carolina	\$31,533	\$32,182	\$32,952	\$39,559	2.1	2.4	20.0
Non-Appalachian North Carolina	\$42,896	\$44,246	\$45,299	\$50,737	3.1	2.4	12.0
<b>Ohio</b>	\$44,080	\$46,601	\$49,647	\$52,954	5.7	6.5	6.7
Appalachian Ohio	\$31,214	\$25,410	\$26,527	\$30,520	-18.6	4.4	15.1
Non-Appalachian Ohio	\$45,318	\$48,578	\$51,915	\$55,021	7.2	6.9	6.0
<b>Pennsylvania</b>	\$51,775	\$58,310	\$61,841	\$67,786	12.6	6.1	9.6
Appalachian Pennsylvania	\$43,738	\$47,845	\$53,365	\$56,040	9.4	11.5	5.0
Non-Appalachian Pennsylvania	\$56,672	\$64,614	\$67,025	\$74,542	14.0	3.7	11.2
<b>South Carolina</b>	\$36,168	\$31,445	\$32,873	\$38,442	-13.1	4.5	16.9
Appalachian South Carolina	\$43,983	\$30,525	\$29,734	\$32,677	-30.6	-2.6	9.9
Non-Appalachian South Carolina	\$32,917	\$31,857	\$34,262	\$40,874	-3.2	7.6	19.3
<b>Tennessee</b>	\$33,957	\$33,801	\$39,004	\$43,244	-0.5	15.4	10.9
Appalachian Tennessee	\$36,315	\$34,712	\$39,422	\$41,827	-4.4	13.6	6.1
Non-Appalachian Tennessee	\$32,602	\$33,273	\$38,760	\$44,007	2.1	16.5	13.5
<b>Virginia</b>	\$62,141	\$69,206	\$76,344	\$73,917	11.4	10.3	-3.2
Appalachian Virginia	\$26,988	\$25,750	\$34,263	\$28,121	-4.6	33.1	-17.9
Non-Appalachian Virginia	\$63,526	\$70,980	\$77,999	\$75,670	11.7	9.9	-3.0
<b>West Virginia (entire state)</b>	\$32,982	\$36,235	\$39,674	\$44,081	9.9	9.5	11.1

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Construction

Workers engaged in the Construction industry throughout Appalachia earned \$41.7 billion in 2017, accounting for 6.7 percent of the Region's total earnings. Average sector earnings in the Region were \$53,733, which was 83 percent of the national average of \$64,788. In Figure 71 we see growth rates across three recent time periods; average earnings in the Region experienced tremendous growth from 2007 to 2012, far outpacing the rate at the national level (16.5 percent compared to 5.6 percent). However, in the most recent period, Regional growth was slower than national growth (3.5 percent, compared to 7.9 percent).

**Figure 71: Percent change in earnings per employee, Construction, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 72, we see that average Appalachian earnings in the Construction industry as a percentage of the national average increased from 78 percent in 2005 to 87 percent in 2012, though it has since dropped off to 83 percent as of 2017.

**Figure 72: Earnings per employee in Appalachia, Construction, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 32 shows earnings per employee across the Region. After experiencing tremendous growth from 2007 to 2012, Central Appalachia was one of only two subregions to see a decline in average earnings from 2012 to 2017, with earnings per employee dropping 11.4 percent. North Central Appalachia also saw a decline of 6.5 percent over the same time period. South Central Appalachia saw the largest growth in average earnings during the 2012–2017 time period, at 7.7 percent.

In the most recent period, we see a 7 percent increase in average earnings in small metro areas, but a decrease of 3.8 percent in rural areas. Modest growth took place in the other three metro designations.

The Appalachian portions of several states experienced fast Construction sector growth over the most recent period: South Carolina (23.3 percent), Georgia (20 percent), and North Carolina (11 percent). Meanwhile, several others saw large declines: Mississippi (15.1 percent decrease), Alabama (10.5 percent decrease), and Kentucky (9.9 percent decrease).

**Table 32: Earnings per employee and percent change, Construction, 2002–2017**

Construction	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$59,180	\$56,837	\$60,022	\$64,788	-4.0	5.6	7.9
<b>Appalachian Region</b>	\$46,351	\$44,617	\$51,957	\$53,773	-3.7	16.5	3.5
<b>Non-Appalachian U.S.</b>	\$60,290	\$57,880	\$60,732	\$65,654	-4.0	4.9	8.1
<b>Subregions</b>							
Northern Appalachia	\$52,631	\$49,018	\$56,549	\$60,022	-6.9	15.4	6.1
North Central Appalachia	\$47,386	\$46,869	\$59,084	\$55,223	-1.1	26.1	-6.5
Central Appalachia	\$38,166	\$36,441	\$48,955	\$43,393	-4.5	34.3	-11.4
South Central Appalachia	\$42,321	\$41,008	\$46,504	\$50,070	-3.1	13.4	7.7
Southern Appalachia	\$44,223	\$44,030	\$49,305	\$51,394	-0.4	12.0	4.2
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$54,934	\$53,483	\$60,315	\$60,525	-2.6	12.8	0.3
Small Metros (pop. <1 million)	\$45,369	\$44,249	\$50,374	\$53,879	-2.5	13.8	7.0
Nonmetro, Adjacent to Large Metros	\$39,963	\$37,302	\$46,618	\$47,355	-6.7	25.0	1.6
Nonmetro, Adjacent to Small Metros	\$41,252	\$37,911	\$46,519	\$47,856	-8.1	22.7	2.9
Rural (nonmetro, not adj. to a metro)	\$39,087	\$37,108	\$47,852	\$46,046	-5.1	29.0	-3.8
<b>Alabama</b>	\$46,229	\$45,635	\$54,582	\$51,050	-1.3	19.6	-6.5
Appalachian Alabama	\$46,603	\$45,719	\$58,434	\$52,295	-1.9	27.8	-10.5
Non-Appalachian Alabama	\$45,519	\$45,489	\$47,107	\$48,692	-0.1	3.6	3.4
<b>Georgia</b>	\$45,301	\$47,760	\$44,781	\$55,366	5.4	-6.2	23.6
Appalachian Georgia	\$43,184	\$43,630	\$41,999	\$50,398	1.0	-3.7	20.0
Non-Appalachian Georgia	\$46,375	\$50,017	\$46,302	\$58,200	7.9	-7.4	25.7
<b>Kentucky</b>	\$46,555	\$44,012	\$49,508	\$54,167	-5.5	12.5	9.4
Appalachian Kentucky	\$39,038	\$36,025	\$47,178	\$42,493	-7.7	31.0	-9.9
Non-Appalachian Kentucky	\$48,619	\$46,205	\$50,184	\$57,118	-5.0	8.6	13.8
<b>Maryland</b>	\$62,834	\$63,035	\$67,922	\$66,404	0.3	7.8	-2.2
Appalachian Maryland	\$48,872	\$48,368	\$47,132	\$48,038	-1.0	-2.6	1.9
Non-Appalachian Maryland	\$63,412	\$63,629	\$68,691	\$66,997	0.3	8.0	-2.5
<b>Mississippi</b>	\$40,077	\$41,297	\$49,957	\$44,367	3.0	21.0	-11.2
Appalachian Mississippi	\$36,371	\$35,120	\$46,814	\$39,375	-3.4	33.3	-15.9
Non-Appalachian Mississippi	\$40,967	\$42,628	\$50,856	\$45,673	4.1	19.3	-10.2
<b>New York</b>	\$67,989	\$63,900	\$70,267	\$74,868	-6.0	10.0	6.5
Appalachian New York	\$44,707	\$42,184	\$53,146	\$50,120	-5.6	26.0	-5.7
Non-Appalachian New York	\$69,284	\$65,078	\$71,209	\$76,040	-6.1	9.4	6.8
<b>North Carolina</b>	\$47,185	\$45,463	\$47,762	\$54,453	-3.6	5.1	14.0
Appalachian North Carolina	\$43,045	\$38,724	\$40,824	\$45,317	-10.0	5.4	11.0
Non-Appalachian North Carolina	\$48,184	\$47,092	\$49,300	\$56,357	-2.3	4.7	14.3
<b>Ohio</b>	\$54,127	\$50,185	\$55,931	\$64,479	-7.3	11.4	15.3
Appalachian Ohio	\$47,620	\$43,419	\$55,807	\$61,611	-8.8	28.5	10.4
Non-Appalachian Ohio	\$55,398	\$51,531	\$55,956	\$65,061	-7.0	8.6	16.3
<b>Pennsylvania</b>	\$66,731	\$61,461	\$60,526	\$69,193	-7.9	-1.5	14.3
Appalachian Pennsylvania	\$55,057	\$50,999	\$57,062	\$60,130	-7.4	11.9	5.4
Non-Appalachian Pennsylvania	\$76,895	\$69,935	\$63,558	\$76,442	-9.1	-9.1	20.3
<b>South Carolina</b>	\$42,671	\$44,093	\$45,468	\$55,414	3.3	3.1	21.9
Appalachian South Carolina	\$44,197	\$44,478	\$46,407	\$57,223	0.6	4.3	23.3
Non-Appalachian South Carolina	\$42,123	\$43,956	\$45,120	\$54,775	4.4	2.6	21.4
<b>Tennessee</b>	\$46,096	\$49,160	\$57,022	\$65,421	6.6	16.0	14.7
Appalachian Tennessee	\$42,038	\$42,427	\$51,194	\$53,894	0.9	20.7	5.3
Non-Appalachian Tennessee	\$49,418	\$54,722	\$61,571	\$73,517	10.7	12.5	19.4
<b>Virginia</b>	\$54,617	\$55,993	\$57,415	\$59,209	2.5	2.5	3.1
Appalachian Virginia	\$37,455	\$38,560	\$43,734	\$41,839	3.0	13.4	-4.3
Non-Appalachian Virginia	\$55,917	\$57,256	\$58,425	\$60,313	2.4	2.0	3.2
<b>West Virginia (entire state)</b>	\$46,250	\$48,523	\$62,121	\$58,095	4.9	28.0	-6.5

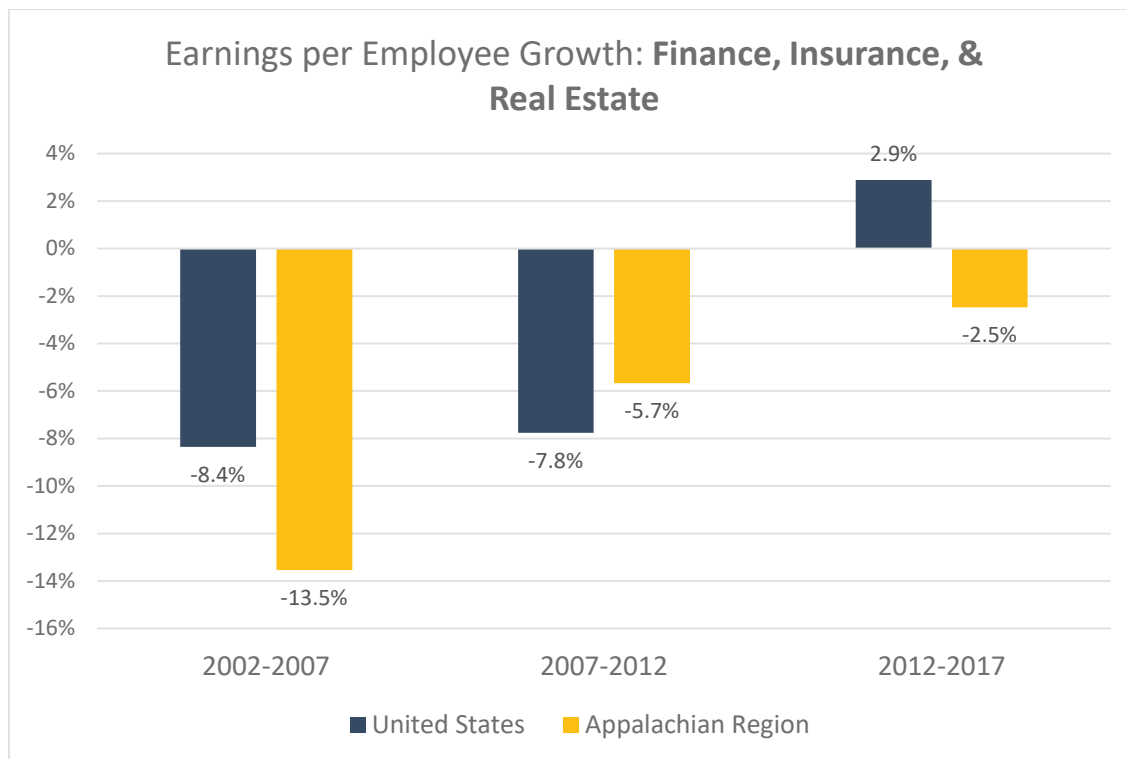
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Finance, Insurance, and Real Estate

Appalachian employees engaged in the Finance, Insurance, and Real Estate industry earned \$39.3 billion in 2017, accounting for 6.3 percent of total earnings in the Region. A large disparity exists between average earnings at the Regional and national levels, with the Appalachian average of \$37,716 representing just 62 percent of the national average of \$60,386. As seen below in Figure 73, while the nation as a whole saw earnings per employee increase 2.9 percent from 2012 to 2017, the Region experienced a decline of 2.5 percent.

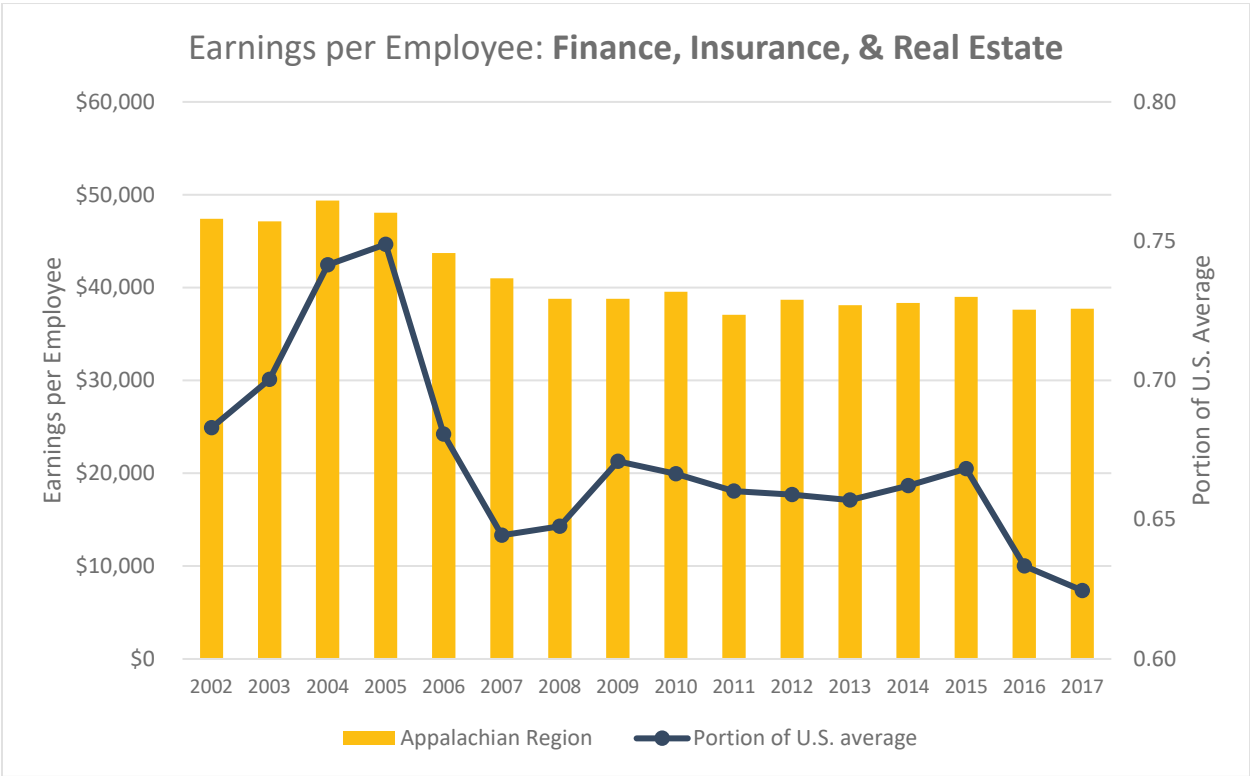
**Figure 73: Percent change in earnings per employee, Finance, Insurance, and Real Estate, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As we can see in Figure 74, earnings per sector employee in the Region as a percentage of the national average saw a large decline from 2005 to 2007, dropping from 75 percent to 64 percent. A slight increase took place from 2007 to 2009, which remained steady until 2015, when Appalachian earnings in the Finance, Insurance, and Real Estate sector dropped from 67 percent of the national average to 62 percent in 2017.

**Figure 74: Earnings per employee in Appalachia, Finance, Insurance, and Real Estate, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 33 displays average earnings throughout Appalachia. The Northern subregion, which had the highest earnings per employee in 2017 (\$41,559), was the only Appalachian subregion to experience growth from 2012 to 2017, though at 0.6 percent it was only slight.

Although there was no real pattern in growth rates based on metro status, a wide gap in average earnings exists between nonmetro and rural areas in 2017 (ranging from approximately \$23,000 to \$27,000) and large metro areas (\$48,256) in 2017.

Only the Appalachian portions of Pennsylvania (1.9 percent), Alabama (1.8 percent), and Mississippi (0.9 percent) saw average earnings increase from 2012 to 2017. Meanwhile, the Appalachian portions of other states saw large declines: South Carolina (14.8 percent), New York (11.2 percent), and Georgia (10.2 percent). Appalachian Pennsylvania had the highest Finance, Insurance, and Real Estate sector earnings per employee in 2017 (\$45,258) and Appalachian Virginia (\$20,850) the lowest.

**Table 33: Earnings per employee and percent change, Finance, Insurance, and Real Estate, 2002–2017**

Finance, Insurance, Real Estate	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$69,427	\$63,627	\$58,689	\$60,386	-8.4	-7.8	2.9
<b>Appalachian Region</b>	\$47,421	\$41,001	\$38,675	\$37,716	-13.5	-5.7	-2.5
<b>Non-Appalachian U.S.</b>	\$70,714	\$64,935	\$59,843	\$61,656	-8.2	-7.8	3.0
<b>Subregions</b>							
Northern Appalachia	\$51,145	\$44,937	\$41,305	\$41,559	-12.1	-8.1	0.6
North Central Appalachia	\$43,906	\$39,370	\$35,700	\$33,779	-10.3	-9.3	-5.4
Central Appalachia	\$36,866	\$31,935	\$28,451	\$27,704	-13.4	-10.9	-2.6
South Central Appalachia	\$39,164	\$36,164	\$34,211	\$33,549	-7.7	-5.4	-1.9
Southern Appalachia	\$50,638	\$41,506	\$40,482	\$38,150	-18.0	-2.5	-5.8
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$64,120	\$52,618	\$48,890	\$48,256	-17.9	-7.1	-1.3
Small Metros (pop. <1 million)	\$42,967	\$39,292	\$37,816	\$36,358	-8.6	-3.8	-3.9
Nonmetro, Adjacent to Large Metros	\$35,179	\$30,031	\$27,534	\$25,207	-14.6	-8.3	-8.5
Nonmetro, Adjacent to Small Metros	\$32,107	\$26,346	\$24,393	\$23,728	-17.9	-7.4	-2.7
Rural (nonmetro, not adj. to a metro)	\$36,778	\$31,520	\$27,470	\$26,942	-14.3	-12.8	-1.9
<b>Alabama</b>	\$46,759	\$40,973	\$35,552	\$36,539	-12.4	-13.2	2.8
Appalachian Alabama	\$52,539	\$45,579	\$39,763	\$40,470	-13.2	-12.8	1.8
Non-Appalachian Alabama	\$36,082	\$32,727	\$27,385	\$28,820	-9.3	-16.3	5.2
<b>Georgia</b>	\$93,541	\$73,949	\$62,964	\$71,469	-20.9	-14.9	13.5
Appalachian Georgia	\$54,671	\$39,348	\$39,238	\$35,225	-28.0	-0.3	-10.2
Non-Appalachian Georgia	\$104,229	\$84,955	\$70,446	\$83,212	-18.5	-17.1	18.1
<b>Kentucky</b>	\$45,325	\$43,630	\$40,745	\$41,130	-3.7	-6.6	0.9
Appalachian Kentucky	\$37,032	\$32,567	\$28,153	\$27,598	-12.1	-13.6	-2.0
Non-Appalachian Kentucky	\$46,820	\$45,464	\$42,840	\$43,200	-2.9	-5.8	0.8
<b>Maryland</b>	\$60,934	\$55,258	\$59,586	\$56,719	-9.3	7.8	-4.8
Appalachian Maryland	\$44,896	\$43,467	\$40,389	\$39,686	-3.2	-7.1	-1.7
Non-Appalachian Maryland	\$61,630	\$55,734	\$60,421	\$57,373	-9.6	8.4	-5.0
<b>Mississippi</b>	\$40,004	\$32,507	\$29,848	\$28,435	-18.7	-8.2	-4.7
Appalachian Mississippi	\$32,653	\$29,575	\$26,395	\$26,629	-9.4	-10.8	0.9
Non-Appalachian Mississippi	\$41,526	\$33,083	\$30,572	\$28,819	-20.3	-7.6	-5.7
<b>New York</b>	\$141,735	\$137,482	\$119,276	\$117,520	-3.0	-13.2	-1.5
Appalachian New York	\$42,805	\$36,606	\$36,645	\$32,533	-14.5	0.1	-11.2
Non-Appalachian New York	\$144,312	\$139,997	\$121,228	\$119,333	-3.0	-13.4	-1.6
<b>North Carolina</b>	\$41,299	\$74,336	\$67,594	\$52,368	80.0	-9.1	-22.5
Appalachian North Carolina	\$36,354	\$32,827	\$33,101	\$32,160	-9.7	0.8	-2.8
Non-Appalachian North Carolina	\$42,200	\$81,790	\$73,487	\$55,652	93.8	-10.2	-24.3
<b>Ohio</b>	\$51,681	\$47,565	\$49,358	\$45,046	-8.0	3.8	-8.7
Appalachian Ohio	\$37,907	\$33,373	\$27,226	\$26,644	-12.0	-18.4	-2.1
Non-Appalachian Ohio	\$53,194	\$49,185	\$51,864	\$47,020	-7.5	5.4	-9.3
<b>Pennsylvania</b>	\$63,113	\$67,362	\$70,993	\$72,406	6.7	5.4	2.0
Appalachian Pennsylvania	\$55,390	\$48,623	\$44,401	\$45,258	-12.2	-8.7	1.9
Non-Appalachian Pennsylvania	\$67,874	\$78,328	\$87,457	\$88,981	15.4	11.7	1.7
<b>South Carolina</b>	\$40,270	\$37,425	\$44,458	\$38,638	-7.1	18.8	-13.1
Appalachian South Carolina	\$43,795	\$39,949	\$50,514	\$43,021	-8.8	26.4	-14.8
Non-Appalachian South Carolina	\$39,140	\$36,692	\$42,656	\$37,254	-6.3	16.3	-12.7
<b>Tennessee</b>	\$52,522	\$46,706	\$46,825	\$44,305	-11.1	0.3	-5.4
Appalachian Tennessee	\$41,946	\$39,219	\$36,317	\$36,137	-6.5	-7.4	-0.5
Non-Appalachian Tennessee	\$58,997	\$51,525	\$53,398	\$48,892	-12.7	3.6	-8.4
<b>Virginia</b>	\$74,349	\$62,240	\$52,265	\$48,206	-16.3	-16.0	-7.8
Appalachian Virginia	\$31,585	\$26,715	\$23,466	\$20,850	-15.4	-12.2	-11.1
Non-Appalachian Virginia	\$76,631	\$64,105	\$53,828	\$49,582	-16.3	-16.0	-7.9
<b>West Virginia (entire state)</b>	\$43,076	\$39,061	\$37,330	\$34,871	-9.3	-4.4	-6.6

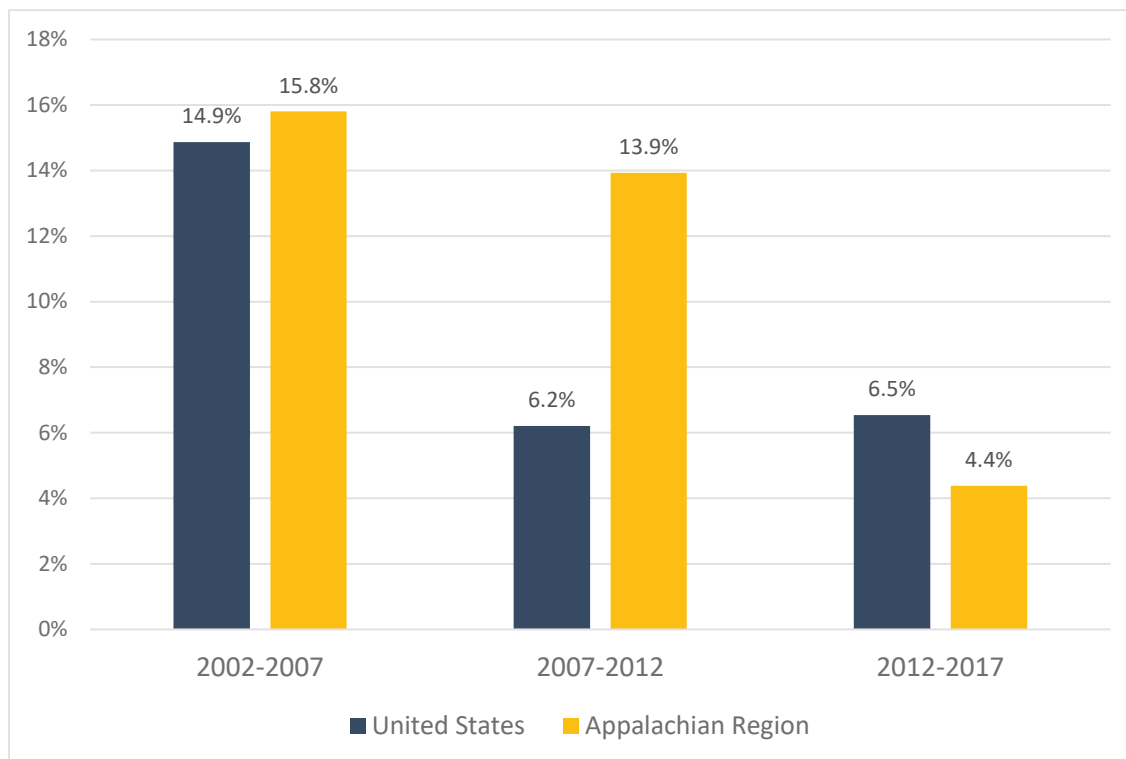
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Education and Information Services

Appalachian employees engaged the Education and Information Services industry earned \$34.4 billion in 2017, accounting for 5.5 percent of the Region's total earnings. At \$79,670, earnings per employee throughout the Region in 2017 was 97 percent of the national average of \$82,520.

As seen in Figure 75, growth in average sector earnings grew faster in the Region than in the United States in both the 2002–2007 and 2007–2012 time periods, though Appalachia's earnings per employee grew slower than the national figure in the most recent period (4.4 percent in the Region, compared to 6.5 percent in the United States).

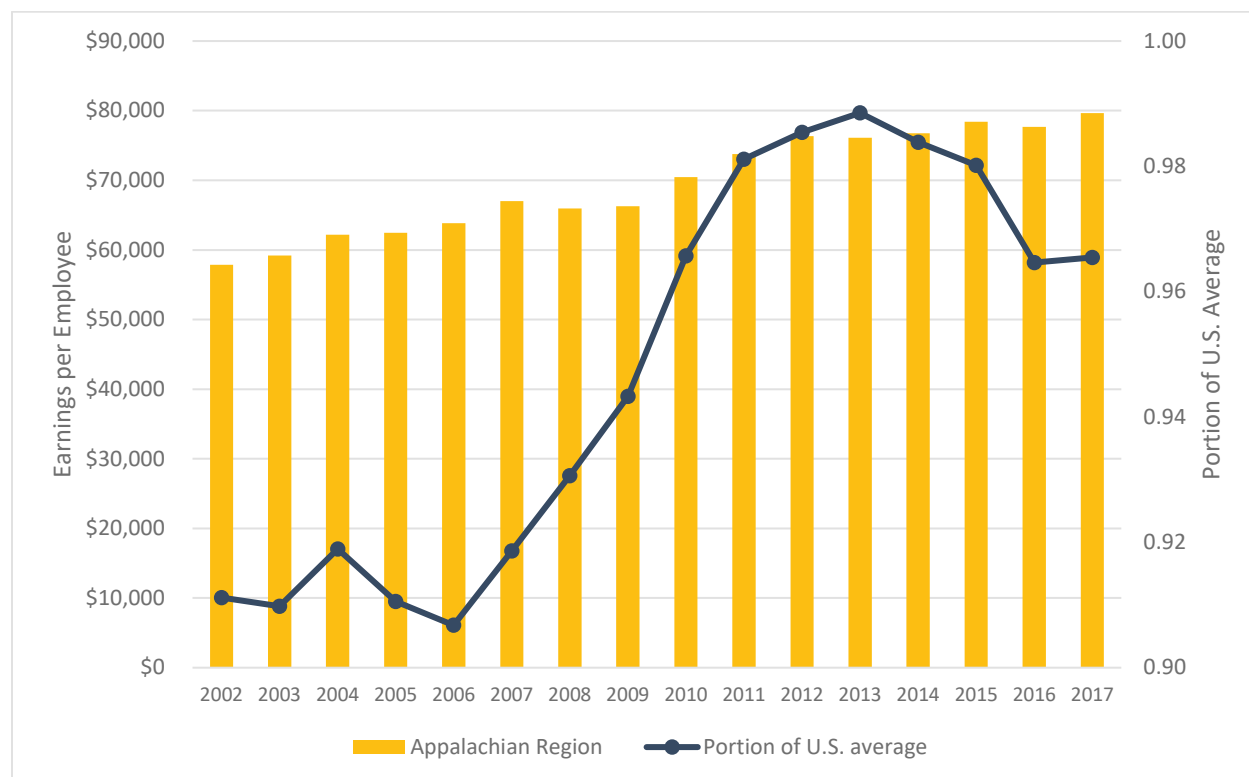
**Figure 75: Percent change in earnings per employee, Education and Information Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 76, Appalachian earnings in Education and Information Services as a percentage of the national average increased steadily from 2006 (91 percent) to 2013 (99 percent), before dropping slightly to 97 percent in 2017.

**Figure 76: Earnings per employee in Appalachia, Education and Information Services, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 34 we see sector earnings per employee across the Region. Though North Central Appalachia experienced the largest growth over the most recent two time periods, South Central Appalachia reported the highest average earnings in 2017, at \$93,316. Average earnings grew fastest from 2012 to 2017 in rural areas throughout the Region, at 9.2 percent.

The Appalachian portions of Virginia (23 percent) and Maryland (12.7 percent) saw the largest growth in average Education and Information Services earnings from 2012 to 2017, followed closely by West Virginia (11.3 percent). The Appalachian portions of the following states all experienced slight declines over recent years: Mississippi (6.2 percent), Tennessee (2 percent), and Georgia (1 percent). The Appalachian portions of South Carolina and Tennessee had the highest average earnings in 2017, at \$106,594 and \$106,308 respectively.

**Table 34: Earnings per employee and percent change, Education and Information Services, 2002–2017**

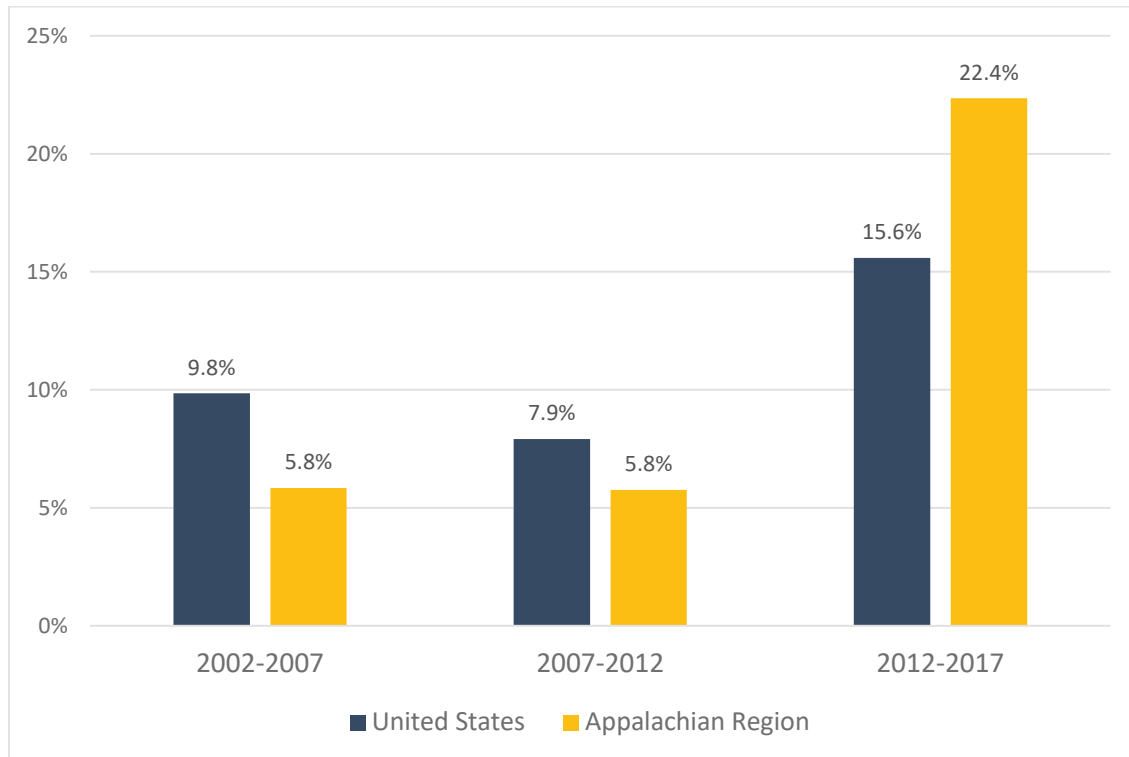
Education, Information Services	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$63,487	\$72,927	\$77,455	\$82,520	14.9	6.2	6.5
<b>Appalachian Region</b>	\$57,847	\$66,992	\$76,326	\$79,670	15.8	13.9	4.4
<b>Non-Appalachian U.S.</b>	\$63,835	\$73,293	\$77,522	\$82,681	14.8	5.8	6.7
<b>Subregions</b>							
Northern Appalachia	\$51,156	\$57,617	\$65,250	\$66,858	12.6	13.2	2.5
North Central Appalachia	\$47,623	\$55,164	\$69,654	\$84,019	15.8	26.3	20.6
Central Appalachia	\$51,214	\$63,071	\$76,294	\$83,315	23.2	21.0	9.2
South Central Appalachia	\$70,459	\$75,429	\$90,852	\$93,316	7.1	20.4	2.7
Southern Appalachia	\$66,518	\$81,540	\$87,114	\$89,763	22.6	6.8	3.0
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$60,398	\$68,300	\$71,130	\$73,519	13.1	4.1	3.4
Small Metros (pop. <1 million)	\$60,699	\$70,617	\$83,397	\$87,661	16.3	18.1	5.1
Nonmetro, Adjacent to Large Metros	\$55,752	\$63,431	\$75,852	\$81,527	13.8	19.6	7.5
Nonmetro, Adjacent to Small Metros	\$48,641	\$56,236	\$68,318	\$69,198	15.6	21.5	1.3
Rural (nonmetro, not adj. to a metro)	\$42,206	\$54,305	\$66,718	\$72,850	28.7	22.9	9.2
<b>Alabama</b>	\$57,777	\$69,387	\$77,276	\$82,459	20.1	11.4	6.7
Appalachian Alabama	\$58,718	\$71,343	\$78,932	\$86,987	21.5	10.6	10.2
Non-Appalachian Alabama	\$56,088	\$66,041	\$74,514	\$75,174	17.7	12.8	0.9
<b>Georgia</b>	\$59,577	\$74,037	\$75,965	\$79,149	24.3	2.6	4.2
Appalachian Georgia	\$75,043	\$87,076	\$84,744	\$83,929	16.0	-2.7	-1.0
Non-Appalachian Georgia	\$56,712	\$71,209	\$74,011	\$78,102	25.6	3.9	5.5
<b>Kentucky</b>	\$54,798	\$62,729	\$73,535	\$86,480	14.5	17.2	17.6
Appalachian Kentucky	\$44,224	\$57,078	\$68,244	\$72,054	29.1	19.6	5.6
Non-Appalachian Kentucky	\$57,291	\$63,902	\$74,600	\$89,625	11.5	16.7	20.1
<b>Maryland</b>	\$68,918	\$76,799	\$87,710	\$93,762	11.4	14.2	6.9
Appalachian Maryland	\$50,705	\$51,881	\$72,357	\$81,541	2.3	39.5	12.7
Non-Appalachian Maryland	\$69,411	\$77,530	\$88,076	\$94,041	11.7	13.6	6.8
<b>Mississippi</b>	\$47,748	\$63,877	\$72,148	\$75,846	33.8	12.9	5.1
Appalachian Mississippi	\$56,894	\$71,469	\$87,582	\$82,148	25.6	22.5	-6.2
Non-Appalachian Mississippi	\$46,298	\$62,530	\$69,286	\$74,665	35.1	10.8	7.8
<b>New York</b>	\$55,322	\$62,205	\$64,677	\$70,955	12.4	4.0	9.7
Appalachian New York	\$52,026	\$56,284	\$63,791	\$65,208	8.2	13.3	2.2
Non-Appalachian New York	\$55,476	\$62,491	\$64,715	\$71,168	12.6	3.6	10.0
<b>North Carolina</b>	\$64,983	\$72,250	\$78,647	\$80,549	11.2	8.9	2.4
Appalachian North Carolina	\$70,998	\$73,866	\$77,683	\$82,627	4.0	5.2	6.4
Non-Appalachian North Carolina	\$63,839	\$71,959	\$78,815	\$80,256	12.7	9.5	1.8
<b>Ohio</b>	\$66,716	\$74,212	\$81,786	\$84,125	11.2	10.2	2.9
Appalachian Ohio	\$55,700	\$64,458	\$82,904	\$91,696	15.7	28.6	10.6
Non-Appalachian Ohio	\$67,907	\$75,197	\$81,680	\$83,451	10.7	8.6	2.2
<b>Pennsylvania</b>	\$57,696	\$62,605	\$67,495	\$71,882	8.5	7.8	6.5
Appalachian Pennsylvania	\$50,287	\$56,986	\$62,890	\$64,800	13.3	10.4	3.0
Non-Appalachian Pennsylvania	\$62,244	\$65,876	\$70,147	\$75,766	5.8	6.5	8.0
<b>South Carolina</b>	\$86,042	\$97,461	\$103,792	\$105,802	13.3	6.5	1.9
Appalachian South Carolina	\$69,868	\$93,768	\$105,327	\$106,594	34.2	12.3	1.2
Non-Appalachian South Carolina	\$94,269	\$99,183	\$103,036	\$105,417	5.2	3.9	2.3
<b>Tennessee</b>	\$90,033	\$90,304	\$98,205	\$100,533	0.3	8.7	2.4
Appalachian Tennessee	\$74,970	\$80,652	\$108,475	\$106,308	7.6	34.5	-2.0
Non-Appalachian Tennessee	\$96,536	\$95,146	\$93,726	\$98,093	-1.4	-1.5	4.7
<b>Virginia</b>	\$56,803	\$71,248	\$86,680	\$98,427	25.4	21.7	13.6
Appalachian Virginia	\$53,064	\$61,169	\$67,124	\$81,861	15.3	9.7	22.0
Non-Appalachian Virginia	\$56,994	\$71,795	\$87,700	\$99,203	26.0	22.2	13.1
<b>West Virginia (entire state)</b>	\$47,044	\$55,112	\$70,820	\$78,856	17.1	28.5	11.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Retail Trade

Employees engaged in the Retail Trade industry earned \$26.7 billion across Appalachia in 2017, accounting for 4.3 percent of the Region's total earnings. Earnings per employee in the Region, at \$17,906, were 80 percent of the national average (\$22,477). Though average earnings in Appalachia grew at a slower rate in the earlier two time periods shown in Figure 77, from 2012 to 2017, growth in the Region (22.4 percent) outpaced that of the nation as a whole (15.6 percent).

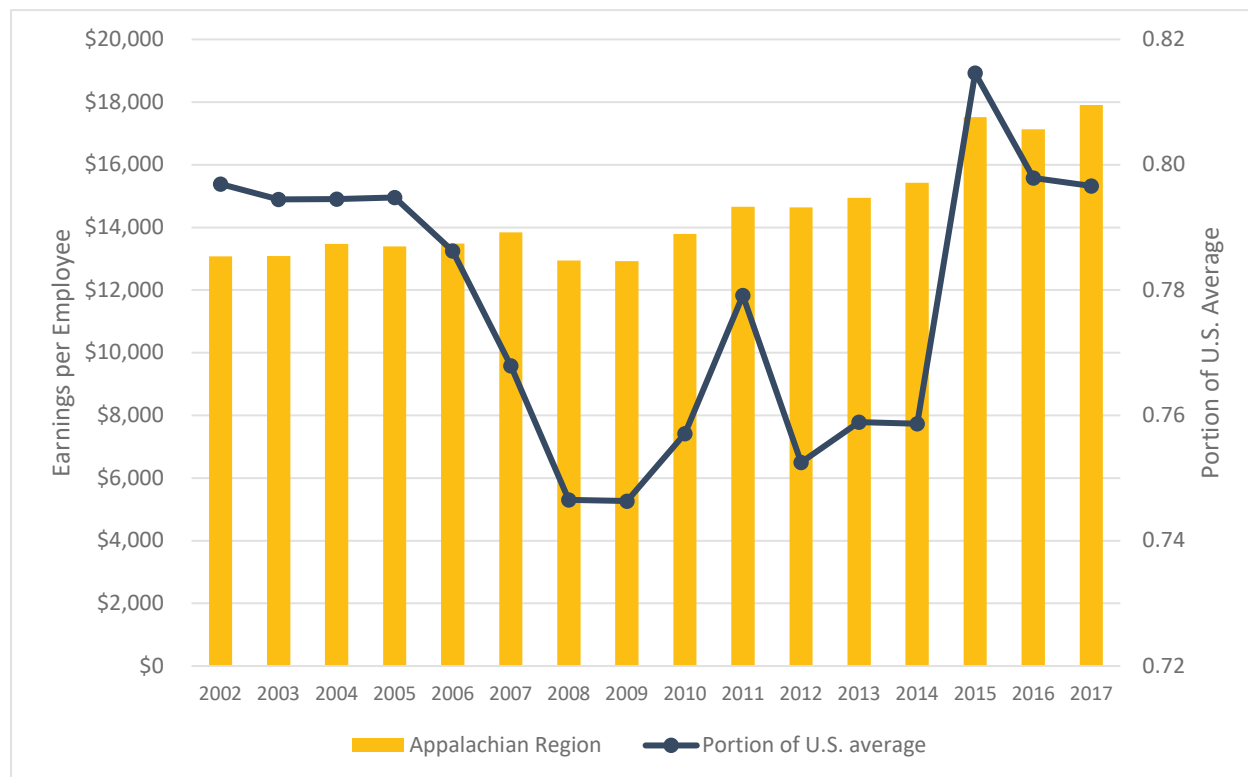
**Figure 77: Percent change in earnings per employee, Retail Trade, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 78, earnings per employee in Appalachia as a percentage of the national average declined from 2002 (80 percent) to 2008 (74 percent), before rising back to 80 percent in 2017.

**Figure 78: Earnings per employee in Appalachia, Retail Trade, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 35 shows earnings per Retail Trade employee throughout the Region. Northern Appalachia, which had the highest average earnings among the subregions in 2017 (\$24,089), saw the fastest growth in the most recent period, growing at 47.6 percent from 2012 to 2017. North Central Appalachia, with the second-highest average earnings in the Region (\$20,156), saw its earnings per employee grow at 29.6 percent over the same time period. Central Appalachia was the only subregion to see average earnings decline during the 2012–2017 period (8.6 percent decrease). Based on metro designations, rural areas throughout the Region experienced the slowest growth in the most recent period, at 3.4 percent. Meanwhile, large metro areas experienced growth of 60.8 percent.

Throughout the Region, the Appalachian portions of states experienced a wide range of changes in average Retail Trade earnings during the 2012–2017 period. Earnings growth was high in Appalachian Pennsylvania (62.1 percent) and Appalachian Ohio (32 percent), while declines in average earnings were large in the Appalachian portions of North Carolina (15.7 percent) and Kentucky (7.9 percent).



**Table 35: Earnings per employee and percent change, Retail Trade, 2002–2017**

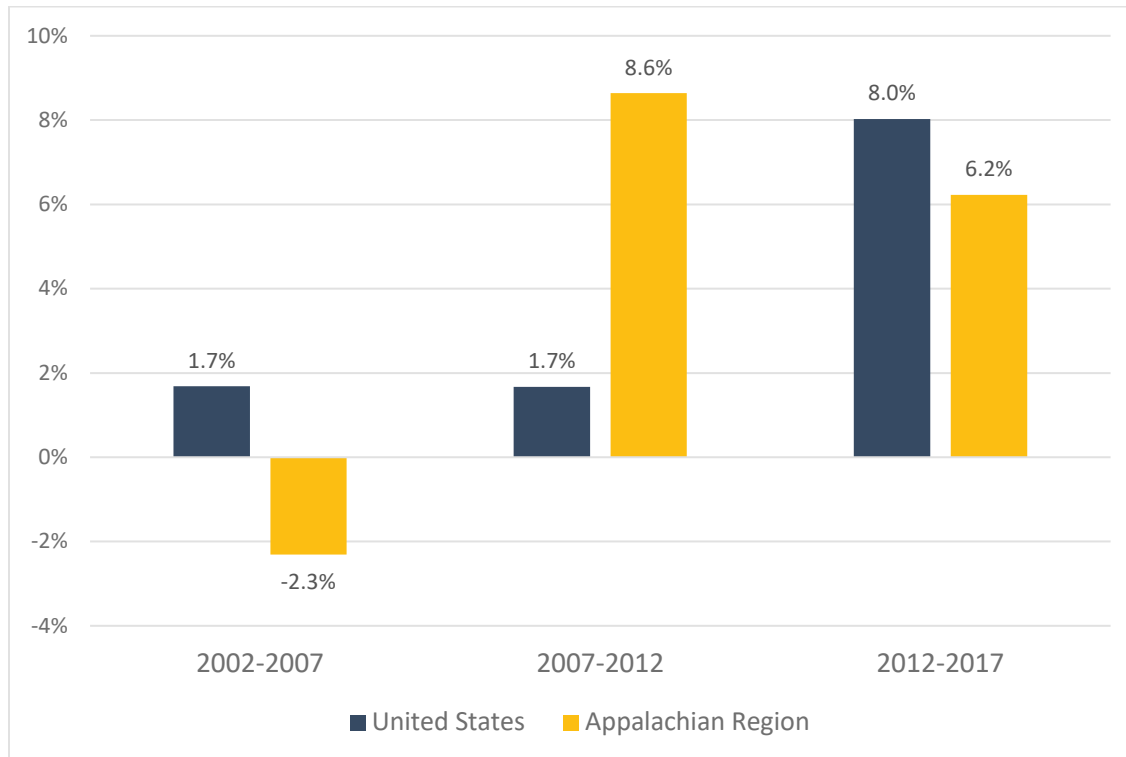
Retail Trade	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$16,405	\$18,020	\$19,447	\$22,477	9.8	7.9	15.6
<b>Appalachian Region</b>	\$13,074	\$13,837	\$14,634	\$17,906	5.8	5.8	22.4
<b>Non-Appalachian U.S.</b>	\$16,706	\$18,390	\$19,869	\$22,862	10.1	8.0	15.1
<b>Subregions</b>							
Northern Appalachia	\$15,268	\$15,468	\$16,319	\$24,089	1.3	5.5	47.6
North Central Appalachia	\$11,089	\$12,282	\$15,554	\$20,156	10.8	26.6	29.6
Central Appalachia	\$13,712	\$15,503	\$15,675	\$14,326	13.1	1.1	-8.6
South Central Appalachia	\$13,654	\$14,392	\$14,305	\$14,793	5.4	-0.6	3.4
Southern Appalachia	\$10,397	\$11,732	\$12,372	\$13,333	12.8	5.5	7.8
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$14,624	\$13,468	\$13,830	\$22,243	-7.9	2.7	60.8
Small Metros (pop. <1 million)	\$13,002	\$14,110	\$14,859	\$16,361	8.5	5.3	10.1
Nonmetro, Adjacent to Large Metros	\$11,752	\$13,470	\$14,716	\$17,454	14.6	9.2	18.6
Nonmetro, Adjacent to Small Metros	\$12,348	\$14,013	\$15,706	\$17,808	13.5	12.1	13.4
Rural (nonmetro, not adj. to a metro)	\$11,871	\$13,538	\$13,931	\$14,403	14.0	2.9	3.4
<b>Alabama</b>	\$11,690	\$13,153	\$13,419	\$14,907	12.5	2.0	11.1
Appalachian Alabama	\$10,122	\$11,636	\$11,834	\$13,492	15.0	1.7	14.0
Non-Appalachian Alabama	\$14,488	\$15,799	\$16,208	\$17,413	9.1	2.6	7.4
<b>Georgia</b>	\$21,111	\$22,132	\$23,489	\$26,668	4.8	6.1	13.5
Appalachian Georgia	\$8,000	\$9,527	\$10,908	\$11,486	19.1	14.5	5.3
Non-Appalachian Georgia	\$26,031	\$27,322	\$28,746	\$33,134	5.0	5.2	15.3
<b>Kentucky</b>	\$21,363	\$23,730	\$23,720	\$27,473	11.1	0.0	15.8
Appalachian Kentucky	\$12,551	\$13,969	\$14,946	\$13,766	11.3	7.0	-7.9
Non-Appalachian Kentucky	\$24,180	\$26,748	\$26,432	\$31,478	10.6	-1.2	19.1
<b>Maryland</b>	\$12,444	\$13,624	\$14,497	\$17,592	9.5	6.4	21.3
Appalachian Maryland	\$16,814	\$19,978	\$20,325	\$21,360	18.8	1.7	5.1
Non-Appalachian Maryland	\$12,201	\$13,257	\$14,148	\$17,371	8.7	6.7	22.8
<b>Mississippi</b>	\$12,918	\$14,552	\$15,236	\$15,851	12.6	4.7	4.0
Appalachian Mississippi	\$13,680	\$17,568	\$16,893	\$16,375	28.4	-3.8	-3.1
Non-Appalachian Mississippi	\$12,721	\$13,803	\$14,803	\$15,718	8.5	7.2	6.2
<b>New York</b>	\$16,075	\$18,407	\$18,689	\$19,973	14.5	1.5	6.9
Appalachian New York	\$8,372	\$9,435	\$8,864	\$8,715	12.7	-6.1	-1.7
Non-Appalachian New York	\$16,624	\$19,010	\$19,301	\$20,626	14.4	1.5	6.9
<b>North Carolina</b>	\$13,520	\$13,334	\$13,219	\$14,801	-1.4	-0.9	12.0
Appalachian North Carolina	\$12,406	\$11,761	\$11,717	\$9,872	-5.2	-0.4	-15.7
Non-Appalachian North Carolina	\$13,773	\$13,672	\$13,538	\$15,819	-0.7	-1.0	16.9
<b>Ohio</b>	\$14,607	\$18,496	\$18,751	\$22,289	26.6	1.4	18.9
Appalachian Ohio	\$11,335	\$13,858	\$17,903	\$23,631	22.3	29.2	32.0
Non-Appalachian Ohio	\$15,230	\$19,407	\$18,913	\$22,036	27.4	-2.5	16.5
<b>Pennsylvania</b>	\$17,282	\$18,283	\$20,553	\$28,957	5.8	12.4	40.9
Appalachian Pennsylvania	\$17,154	\$16,586	\$17,560	\$28,471	-3.3	5.9	62.1
Non-Appalachian Pennsylvania	\$17,397	\$19,760	\$23,154	\$29,364	13.6	17.2	26.8
<b>South Carolina</b>	\$10,645	\$11,373	\$11,363	\$13,573	6.8	-0.1	19.4
Appalachian South Carolina	\$14,312	\$14,206	\$14,865	\$15,887	-0.7	4.6	6.9
Non-Appalachian South Carolina	\$9,271	\$10,347	\$10,161	\$12,757	11.6	-1.8	25.5
<b>Tennessee</b>	\$22,914	\$24,522	\$24,791	\$27,677	7.0	1.1	11.6
Appalachian Tennessee	\$15,106	\$16,431	\$16,280	\$18,176	8.8	-0.9	11.6
Non-Appalachian Tennessee	\$29,091	\$30,714	\$31,214	\$34,613	5.6	1.6	10.9
<b>Virginia</b>	\$14,889	\$14,673	\$15,790	\$18,046	-1.5	7.6	14.3
Appalachian Virginia	\$10,433	\$11,849	\$11,229	\$11,601	13.6	-5.2	3.3
Non-Appalachian Virginia	\$15,352	\$14,951	\$16,229	\$18,636	-2.6	8.5	14.8
<b>West Virginia (entire state)</b>	\$12,462	\$13,429	\$14,380	\$14,305	7.8	7.1	-0.5

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Food, Lodging, and Entertainment

Appalachian employees in the Food, Lodging, and Entertainment industry earned \$26.4 billion in 2017, which represented 4.2 percent of the Region's overall earnings. Average earnings in Appalachia were \$21,308, which was just 77 percent of the national figure of \$27,685. Though the Region far outpaced national growth in earnings per employee during the 2007–2012 period (8.6 percent compared to 1.7 percent), it lagged in the most recent period (6.2 percent compared to 8 percent).

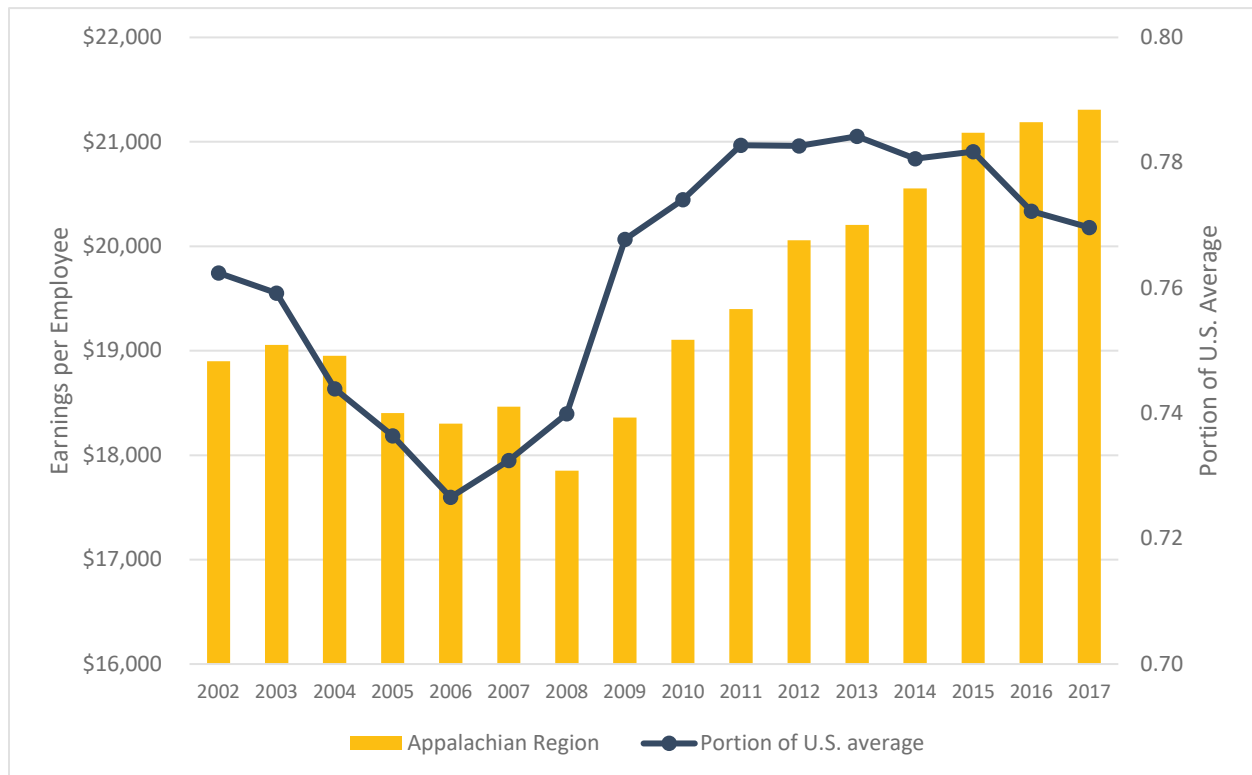
**Figure 79: Percent change in earnings per employee, Food, Lodging, and Entertainment, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 80, earnings per employee in Appalachia as a percentage of the national average grew from 73 percent in 2006 to 78 percent in 2013, before dropping slightly to 77 percent in 2017.

**Figure 80: Earnings per employee in Appalachia, Food, Lodging, and Entertainment, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 36 shows earnings per employee throughout the Region. After growing 13.4 percent from 2012 to 2017, South Central Appalachia had the highest earnings per employee in the Region in 2017 (\$23,060). Large metro areas throughout the Region saw the fastest growth in the most recent period, at 7.7 percent. Rural areas, meanwhile, experienced growth of just 1.6 percent from 2012 to 2017.

The Appalachian portions of Tennessee (15 percent), Maryland (14.1 percent), and North Carolina (11.7 percent) saw the fastest growth in earnings per employee in the Food, Lodging, and Entertainment sector during the 2012–2017 period. Appalachian Mississippi was the only state to see a decline over the time period (1.5 percent), though this was not as large of a decrease as what occurred in the non-Appalachian portion of the state, which experienced a drop in average earnings of 4.8 percent.

**Table 36: Earnings per employee and percent change, Food, Lodging, and Entertainment, 2002–2017**

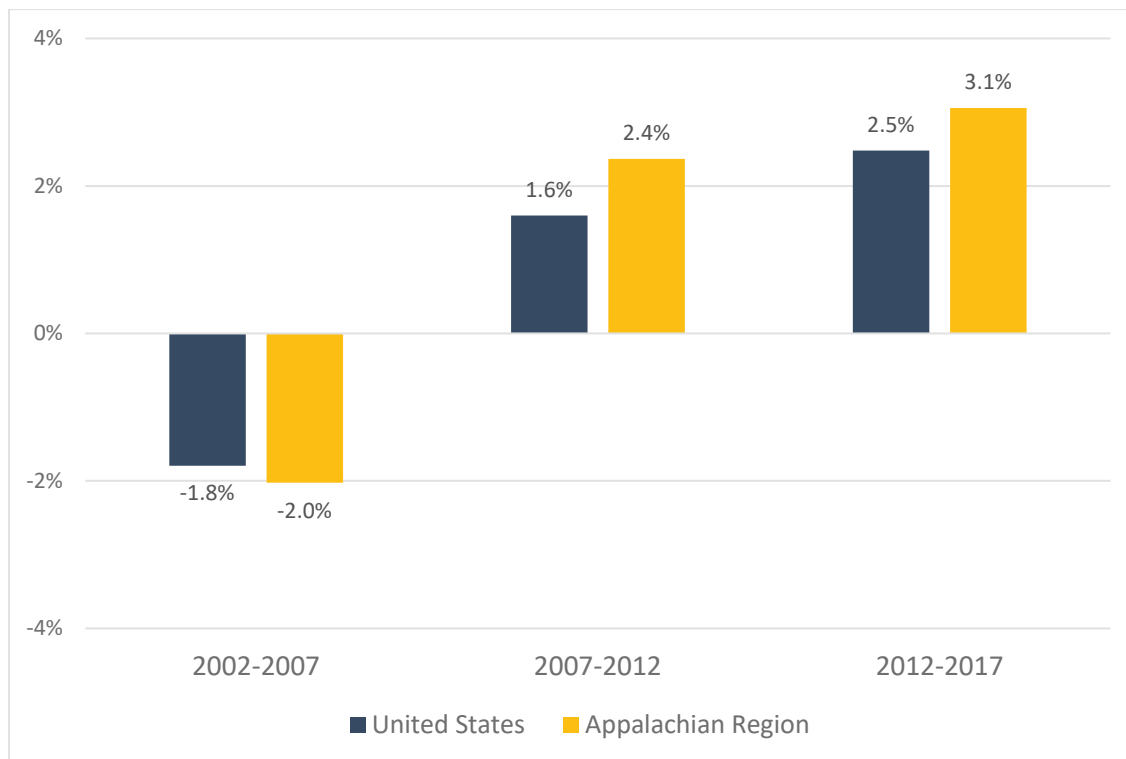
Food, Lodging, Entertainment	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$24,789	\$25,207	\$25,628	\$27,685	1.7	1.7	8.0
<b>Appalachian Region</b>	\$18,900	\$18,464	\$20,059	\$21,308	-2.3	8.6	6.2
<b>Non-Appalachian U.S.</b>	\$25,221	\$25,702	\$26,027	\$28,126	1.9	1.3	8.1
<b>Subregions</b>							
Northern Appalachia	\$19,046	\$19,118	\$21,558	\$22,810	0.4	12.8	5.8
North Central Appalachia	\$18,338	\$17,632	\$19,384	\$19,740	-3.9	9.9	1.8
Central Appalachia	\$16,369	\$15,834	\$17,442	\$17,628	-3.3	10.2	1.1
South Central Appalachia	\$20,851	\$19,833	\$20,330	\$23,060	-4.9	2.5	13.4
Southern Appalachia	\$17,805	\$17,323	\$18,623	\$19,326	-2.7	7.5	3.8
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$21,042	\$19,980	\$21,179	\$22,807	-5.0	6.0	7.7
Small Metros (pop. <1 million)	\$18,508	\$18,275	\$20,336	\$21,509	-1.3	11.3	5.8
Nonmetro, Adjacent to Large Metros	\$15,773	\$15,815	\$17,336	\$18,387	0.3	9.6	6.1
Nonmetro, Adjacent to Small Metros	\$19,394	\$18,586	\$19,608	\$20,919	-4.2	5.5	6.7
Rural (nonmetro, not adj. to a metro)	\$16,868	\$17,001	\$18,063	\$18,349	0.8	6.2	1.6
<b>Alabama</b>	\$16,886	\$16,668	\$17,878	\$18,512	-1.3	7.3	3.5
Appalachian Alabama	\$17,207	\$16,592	\$17,923	\$18,409	-3.6	8.0	2.7
Non-Appalachian Alabama	\$16,341	\$16,796	\$17,805	\$18,682	2.8	6.0	4.9
<b>Georgia</b>	\$22,269	\$20,756	\$21,416	\$21,139	-6.8	3.2	-1.3
Appalachian Georgia	\$19,591	\$18,534	\$19,693	\$20,154	-5.4	6.3	2.3
Non-Appalachian Georgia	\$23,006	\$21,450	\$21,934	\$21,454	-6.8	2.3	-2.2
<b>Kentucky</b>	\$18,669	\$19,022	\$19,712	\$22,296	1.9	3.6	13.1
Appalachian Kentucky	\$15,898	\$15,134	\$16,796	\$17,083	-4.8	11.0	1.7
Non-Appalachian Kentucky	\$19,273	\$19,836	\$20,311	\$23,319	2.9	2.4	14.8
<b>Maryland</b>	\$26,224	\$24,139	\$24,998	\$30,086	-7.9	3.6	20.4
Appalachian Maryland	\$21,248	\$24,468	\$24,091	\$27,494	15.2	-1.5	14.1
Non-Appalachian Maryland	\$26,436	\$24,125	\$25,040	\$30,193	-8.7	3.8	20.6
<b>Mississippi</b>	\$21,838	\$20,714	\$20,782	\$19,823	-5.1	0.3	-4.6
Appalachian Mississippi	\$14,349	\$14,434	\$16,096	\$15,861	0.6	11.5	-1.5
Non-Appalachian Mississippi	\$22,928	\$21,724	\$21,585	\$20,545	-5.3	-0.6	-4.8
<b>New York</b>	\$29,916	\$33,685	\$35,461	\$37,087	12.6	5.3	4.6
Appalachian New York	\$16,637	\$17,893	\$18,651	\$20,530	7.6	4.2	10.1
Non-Appalachian New York	\$30,700	\$34,544	\$36,283	\$37,838	12.5	5.0	4.3
<b>North Carolina</b>	\$20,807	\$20,983	\$21,525	\$23,790	0.8	2.6	10.5
Appalachian North Carolina	\$19,769	\$19,347	\$19,403	\$21,664	-2.1	0.3	11.7
Non-Appalachian North Carolina	\$21,051	\$21,353	\$21,974	\$24,242	1.4	2.9	10.3
<b>Ohio</b>	\$21,748	\$20,018	\$22,648	\$24,750	-8.0	13.1	9.3
Appalachian Ohio	\$14,984	\$14,988	\$18,466	\$19,108	0.0	23.2	3.5
Non-Appalachian Ohio	\$22,823	\$20,798	\$23,286	\$25,585	-8.9	12.0	9.9
<b>Pennsylvania</b>	\$22,661	\$22,050	\$23,228	\$25,179	-2.7	5.3	8.4
Appalachian Pennsylvania	\$20,037	\$19,752	\$22,242	\$23,571	-1.4	12.6	6.0
Non-Appalachian Pennsylvania	\$24,998	\$23,985	\$24,025	\$26,419	-4.1	0.2	10.0
<b>South Carolina</b>	\$18,273	\$19,280	\$19,995	\$22,522	5.5	3.7	12.6
Appalachian South Carolina	\$17,272	\$17,546	\$18,992	\$20,816	1.6	8.2	9.6
Non-Appalachian South Carolina	\$18,586	\$19,822	\$20,300	\$23,035	6.6	2.4	13.5
<b>Tennessee</b>	\$26,496	\$28,142	\$27,542	\$30,741	6.2	-2.1	11.6
Appalachian Tennessee	\$21,036	\$20,138	\$21,031	\$24,191	-4.3	4.4	15.0
Non-Appalachian Tennessee	\$30,219	\$33,641	\$31,969	\$35,006	11.3	-5.0	9.5
<b>Virginia</b>	\$23,008	\$23,195	\$22,634	\$23,911	0.8	-2.4	5.6
Appalachian Virginia	\$21,322	\$18,711	\$19,166	\$19,945	-12.2	2.4	4.1
Non-Appalachian Virginia	\$23,155	\$23,561	\$22,898	\$24,176	1.8	-2.8	5.6
<b>West Virginia (entire state)</b>	\$20,075	\$18,958	\$20,651	\$20,442	-5.6	8.9	-1.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Personal and Other Services

Employees engaged in the Personal and Other Services industry throughout the Region earned \$25.5 billion in 2017, accounting for 4.1 percent of Appalachia's total earnings. Earnings per employee in Appalachia were \$32,180, which represented 89 percent of the national average (\$36,353). Figure 81 shows growth rates in average earnings for both Appalachia and the United States as a whole; we see that the Region's growth only slightly outpaced that of the country overall during both the 2007–2012 and 2012–2017 periods.

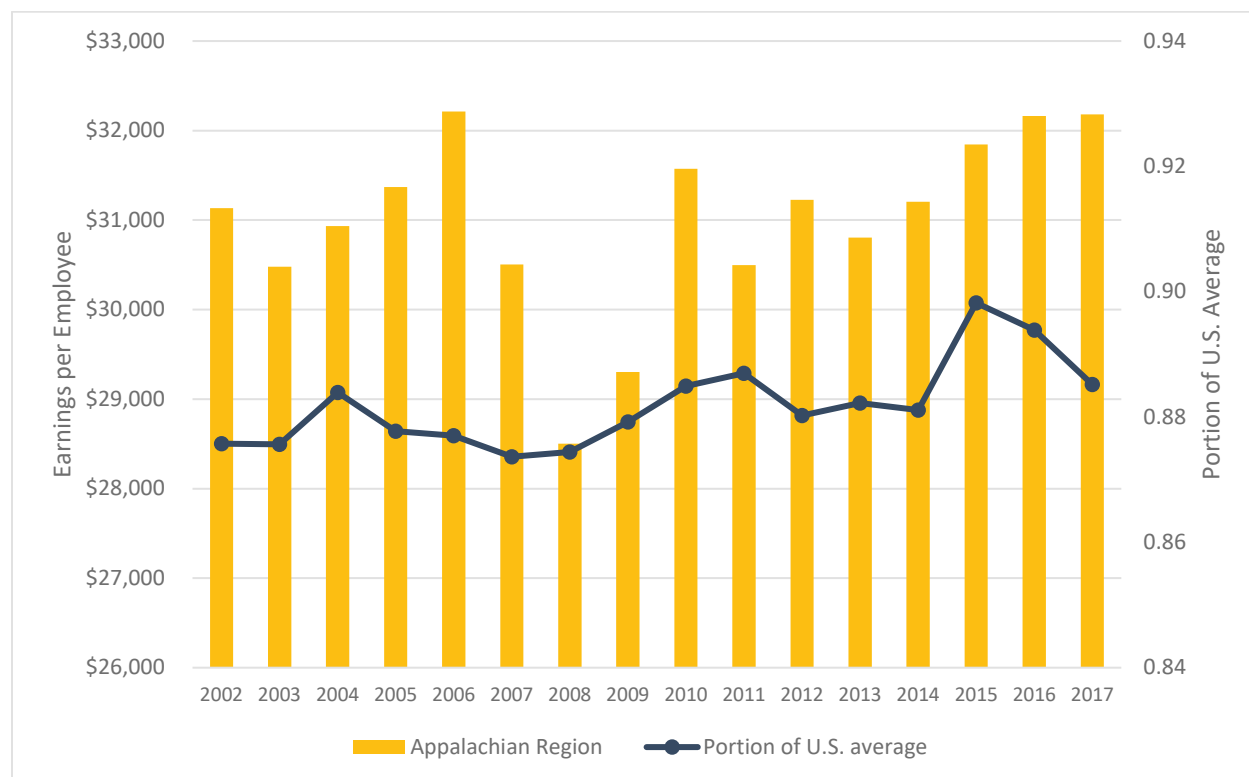
**Figure 81: Percent change in earnings per employee, Personal and Other Services, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 82, Appalachian earnings per employee as a percentage of the national average remained relatively steady in this sector from 2002 to 2017. The low came in 2007 (87 percent) and the high in 2015 (90 percent).

**Figure 82: Earnings per employee in Appalachia, Personal and Other Services, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 37 shows earnings per employee in the Personal and Other Services sector across the Appalachian Region. Northern Appalachia had the highest average earnings in 2017 (\$34,555) after experiencing growth of 7.3 percent from 2012 to 2017. Southern Appalachia had the lowest earnings per employee (\$29,586), after seeing declines during both the 2007–2012 and 2012–2017 time periods. In the most recent five-year period, as we move away from the cities in the Region, growth in average earnings generally decreases, from an increase of 5.9 percent in large metro areas to a decline of 0.9 percent in rural areas.

Appalachian Pennsylvania (9.9 percent) experienced the largest growth in average earnings from 2012 to 2017, with the Appalachian portions of North Carolina (4.6 percent), Tennessee (4.3 percent), South Carolina (4.2), and Ohio (4.1 percent) following thereafter. Meanwhile, Appalachian Mississippi saw the largest decline in the most recent time period, as average earnings dropped 6.2 percent, to \$26,515 in 2017, the lowest average among states in the Region.

**Table 37: Earnings per employee and percent change, Personal and Other Services, 2002–2017**

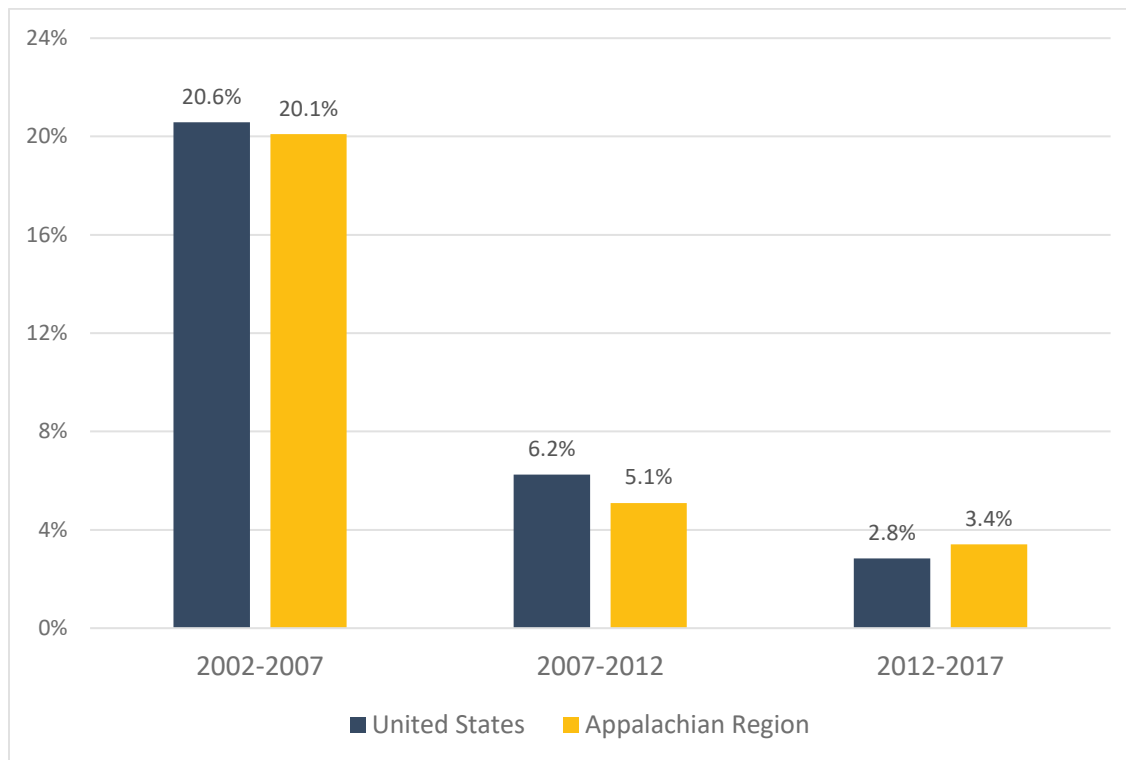
Personal, Other Services	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$35,552	\$34,915	\$35,473	\$36,353	-1.8	1.6	2.5
<b>Appalachian Region</b>	\$31,134	\$30,504	\$31,225	\$32,180	-2.0	2.4	3.1
<b>Non-Appalachian U.S.</b>	\$35,924	\$35,274	\$35,811	\$36,672	-1.8	1.5	2.4
<b>Subregions</b>							
Northern Appalachia	\$32,959	\$31,553	\$32,211	\$34,555	-4.3	2.1	7.3
North Central Appalachia	\$30,426	\$28,849	\$31,514	\$32,062	-5.2	9.2	1.7
Central Appalachia	\$28,294	\$28,043	\$30,555	\$29,824	-0.9	9.0	-2.4
South Central Appalachia	\$30,844	\$30,541	\$32,236	\$33,584	-1.0	5.5	4.2
Southern Appalachia	\$29,904	\$30,267	\$29,680	\$29,586	1.2	-1.9	-0.3
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$34,622	\$33,516	\$32,304	\$34,215	-3.2	-3.6	5.9
Small Metros (pop. <1 million)	\$30,934	\$30,604	\$31,804	\$32,488	-1.1	3.9	2.2
Nonmetro, Adjacent to Large Metros	\$28,694	\$28,158	\$29,885	\$30,781	-1.9	6.1	3.0
Nonmetro, Adjacent to Small Metros	\$28,994	\$27,997	\$29,325	\$29,930	-3.4	4.7	2.1
Rural (nonmetro, not adj. to a metro)	\$28,724	\$27,937	\$29,719	\$29,439	-2.7	6.4	-0.9
<b>Alabama</b>	\$26,589	\$30,294	\$30,574	\$29,385	13.9	0.9	-3.9
Appalachian Alabama	\$27,394	\$30,260	\$30,520	\$29,928	10.5	0.9	-1.9
Non-Appalachian Alabama	\$25,206	\$30,350	\$30,662	\$28,480	20.4	1.0	-7.1
<b>Georgia</b>	\$31,603	\$29,306	\$27,077	\$26,940	-7.3	-7.6	-0.5
Appalachian Georgia	\$32,104	\$29,999	\$28,378	\$28,644	-6.6	-5.4	0.9
Non-Appalachian Georgia	\$31,430	\$29,051	\$26,610	\$26,295	-7.6	-8.4	-1.2
<b>Kentucky</b>	\$31,198	\$29,371	\$32,162	\$32,990	-5.9	9.5	2.6
Appalachian Kentucky	\$28,121	\$26,901	\$29,248	\$28,650	-4.3	8.7	-2.0
Non-Appalachian Kentucky	\$32,117	\$30,087	\$33,036	\$34,230	-6.3	9.8	3.6
<b>Maryland</b>	\$36,443	\$36,182	\$37,590	\$38,954	-0.7	3.9	3.6
Appalachian Maryland	\$32,048	\$32,537	\$33,490	\$33,318	1.5	2.9	-0.5
Non-Appalachian Maryland	\$36,640	\$36,330	\$37,742	\$39,152	-0.8	3.9	3.7
<b>Mississippi</b>	\$30,201	\$28,313	\$28,900	\$26,233	-6.3	2.1	-9.2
Appalachian Mississippi	\$30,337	\$28,026	\$28,271	\$26,515	-7.6	0.9	-6.2
Non-Appalachian Mississippi	\$30,167	\$28,383	\$29,059	\$26,162	-5.9	2.4	-10.0
<b>New York</b>	\$37,962	\$37,687	\$38,534	\$40,618	-0.7	2.2	5.4
Appalachian New York	\$30,998	\$29,825	\$32,336	\$31,788	-3.8	8.4	-1.7
Non-Appalachian New York	\$38,323	\$38,069	\$38,799	\$40,992	-0.7	1.9	5.7
<b>North Carolina</b>	\$30,767	\$29,723	\$31,712	\$32,755	-3.4	6.7	3.3
Appalachian North Carolina	\$30,142	\$28,805	\$29,535	\$30,882	-4.4	2.5	4.6
Non-Appalachian North Carolina	\$30,912	\$29,924	\$32,177	\$33,135	-3.2	7.5	3.0
<b>Ohio</b>	\$34,271	\$31,090	\$33,593	\$35,578	-9.3	8.0	5.9
Appalachian Ohio	\$30,267	\$26,910	\$30,031	\$31,247	-11.1	11.6	4.1
Non-Appalachian Ohio	\$35,003	\$31,853	\$34,236	\$36,334	-9.0	7.5	6.1
<b>Pennsylvania</b>	\$37,015	\$35,734	\$35,408	\$37,404	-3.5	-0.9	5.6
Appalachian Pennsylvania	\$33,997	\$32,710	\$32,619	\$35,864	-3.8	-0.3	9.9
Non-Appalachian Pennsylvania	\$39,686	\$38,275	\$37,633	\$38,563	-3.6	-1.7	2.5
<b>South Carolina</b>	\$29,836	\$30,443	\$30,284	\$31,090	2.0	-0.5	2.7
Appalachian South Carolina	\$32,377	\$31,959	\$31,168	\$32,472	-1.3	-2.5	4.2
Non-Appalachian South Carolina	\$28,975	\$29,932	\$29,985	\$30,626	3.3	0.2	2.1
<b>Tennessee</b>	\$33,464	\$32,730	\$34,616	\$35,485	-2.2	5.8	2.5
Appalachian Tennessee	\$30,670	\$31,357	\$34,130	\$35,599	2.2	8.8	4.3
Non-Appalachian Tennessee	\$35,459	\$33,692	\$34,926	\$35,415	-5.0	3.7	1.4
<b>Virginia</b>	\$37,871	\$38,834	\$38,443	\$38,080	2.5	-1.0	-0.9
Appalachian Virginia	\$31,863	\$31,130	\$31,508	\$30,875	-2.3	1.2	-2.0
Non-Appalachian Virginia	\$38,422	\$39,489	\$38,988	\$38,593	2.8	-1.3	-1.0
<b>West Virginia (entire state)</b>	\$29,786	\$29,671	\$31,981	\$31,573	-0.4	7.8	-1.3

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Federal Government and Military

Appalachian workers employed by the Federal Government and Military earned \$19 billion in 2017, which represented 3 percent of total earnings in the Region. Average earnings in the Region were \$78,938, which was 86 percent of the national figure of \$91,808. Across the three time periods in Figure 83, we see that both Appalachia and the United States as a whole witnessed comparable growth.

**Figure 83: Percent change in earnings per employee, Federal Government and Military, 2002–2007, 2007–2012, and 2012–2017**

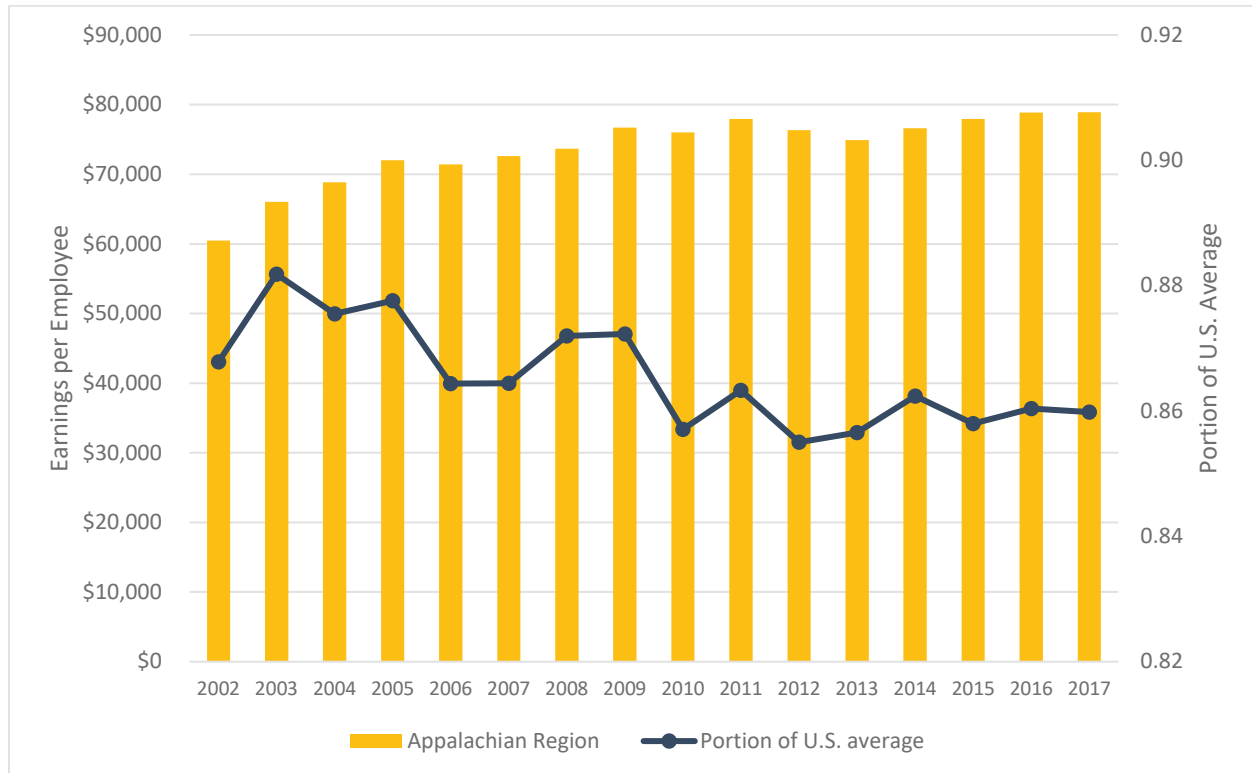


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



As seen in Figure 84, earnings per sector employee in Appalachia as a percentage of the national average decreased only slightly from 2002 to 2017, dropping just one percentage point, from 87 percent to 86 percent.

**Figure 84: Earnings per employee in Appalachia, Federal Government and Military, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 38, we see earnings per employee and recent changes across the Appalachian Region. South Central Appalachia, after experiencing a 7.6 percent growth in average earnings from 2012 to 2017, had the highest earnings per employee among the subregions in 2017, at \$83,239.

Small metro areas throughout the Region had the highest earnings per employee in 2017 (\$88,174), and they also experienced the fastest growth in these average earnings from 2012 to 2017, at 4.2 percent.

The Appalachian portions of Tennessee (9.6 percent) and Alabama (4.4 percent) saw the fastest growth over the most recent period, with these two states also having the highest average earnings in 2017, at \$91,065 and \$96,592, respectively. The Appalachian portions of Georgia (\$53,750) and South Carolina (\$54,387) had the lowest earnings per employee among states in the Region.

**Table 38: Earnings per employee and percent change, Federal Government and Military, 2002–2017**

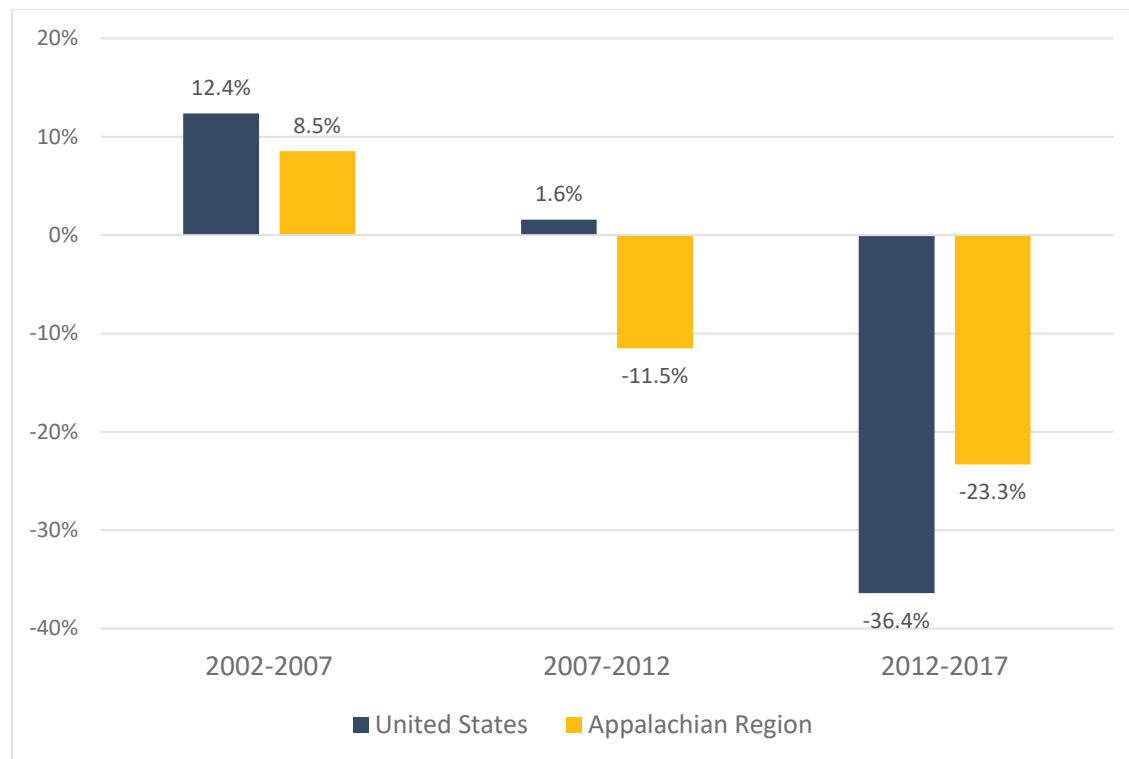
Federal Government, Military	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$69,691	\$84,028	\$89,275	\$91,808	20.6	6.2	2.8
<b>Appalachian Region</b>	\$60,482	\$72,635	\$76,332	\$78,938	20.1	5.1	3.4
<b>Non-Appalachian U.S.</b>	\$70,203	\$84,656	\$89,968	\$92,489	20.6	6.3	2.8
<b>Subregions</b>							
Northern Appalachia	\$59,787	\$70,981	\$73,128	\$74,236	18.7	3.0	1.5
North Central Appalachia	\$61,727	\$74,647	\$77,832	\$81,640	20.9	4.3	4.9
Central Appalachia	\$53,512	\$65,661	\$66,818	\$69,640	22.7	1.8	4.2
South Central Appalachia	\$61,635	\$73,296	\$77,377	\$83,239	18.9	5.6	7.6
Southern Appalachia	\$61,392	\$74,252	\$79,619	\$81,348	20.9	7.2	2.2
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$59,710	\$69,469	\$72,360	\$74,915	16.3	4.2	3.5
Small Metros (pop. <1 million)	\$66,895	\$80,414	\$84,606	\$88,174	20.2	5.2	4.2
Nonmetro, Adjacent to Large Metros	\$51,258	\$61,953	\$63,474	\$64,602	20.9	2.5	1.8
Nonmetro, Adjacent to Small Metros	\$49,044	\$59,401	\$62,746	\$63,348	21.1	5.6	1.0
Rural (nonmetro, not adj. to a metro)	\$51,577	\$63,543	\$66,508	\$68,392	23.2	4.7	2.8
<b>Alabama</b>	\$68,543	\$82,033	\$89,396	\$92,418	19.7	9.0	3.4
Appalachian Alabama	\$70,696	\$84,440	\$92,562	\$96,592	19.4	9.6	4.4
Non-Appalachian Alabama	\$65,072	\$77,834	\$83,489	\$84,809	19.6	7.3	1.6
<b>Georgia</b>	\$66,490	\$83,016	\$85,500	\$87,274	24.9	3.0	2.1
Appalachian Georgia	\$46,347	\$56,479	\$54,839	\$53,750	21.9	-2.9	-2.0
Non-Appalachian Georgia	\$68,336	\$85,465	\$87,981	\$90,228	25.1	2.9	2.6
<b>Kentucky</b>	\$58,932	\$76,015	\$81,352	\$79,952	29.0	7.0	-1.7
Appalachian Kentucky	\$49,566	\$62,054	\$63,608	\$65,041	25.2	2.5	2.3
Non-Appalachian Kentucky	\$60,097	\$77,762	\$83,428	\$81,848	29.4	7.3	-1.9
<b>Maryland</b>	\$91,074	\$110,701	\$118,635	\$124,495	21.6	7.2	4.9
Appalachian Maryland	\$53,523	\$63,075	\$65,465	\$67,463	17.8	3.8	3.1
Non-Appalachian Maryland	\$91,458	\$111,172	\$119,126	\$124,995	21.6	7.2	4.9
<b>Mississippi</b>	\$57,082	\$68,596	\$70,623	\$71,747	20.2	3.0	1.6
Appalachian Mississippi	\$48,496	\$58,333	\$60,311	\$60,871	20.3	3.4	0.9
Non-Appalachian Mississippi	\$58,497	\$70,289	\$72,354	\$73,591	20.2	2.9	1.7
<b>New York</b>	\$67,953	\$80,330	\$86,136	\$88,360	18.2	7.2	2.6
Appalachian New York	\$54,900	\$63,252	\$66,448	\$67,533	15.2	5.1	1.6
Non-Appalachian New York	\$68,396	\$80,877	\$86,737	\$88,985	18.2	7.2	2.6
<b>North Carolina</b>	\$58,390	\$77,154	\$83,028	\$82,136	32.1	7.6	-1.1
Appalachian North Carolina	\$52,935	\$66,841	\$68,130	\$71,141	26.3	1.9	4.4
Non-Appalachian North Carolina	\$58,749	\$77,763	\$83,925	\$82,779	32.4	7.9	-1.4
<b>Ohio</b>	\$70,302	\$81,865	\$83,684	\$85,193	16.4	2.2	1.8
Appalachian Ohio	\$52,757	\$63,572	\$63,248	\$63,145	20.5	-0.5	-0.2
Non-Appalachian Ohio	\$72,526	\$84,138	\$86,162	\$87,852	16.0	2.4	2.0
<b>Pennsylvania</b>	\$66,459	\$79,609	\$81,721	\$84,727	19.8	2.7	3.7
Appalachian Pennsylvania	\$61,672	\$73,269	\$75,534	\$76,961	18.8	3.1	1.9
Non-Appalachian Pennsylvania	\$69,619	\$83,828	\$85,738	\$89,776	20.4	2.3	4.7
<b>South Carolina</b>	\$56,151	\$70,731	\$75,762	\$74,030	26.0	7.1	-2.3
Appalachian South Carolina	\$42,921	\$54,443	\$54,221	\$54,387	26.8	-0.4	0.3
Non-Appalachian South Carolina	\$57,571	\$72,420	\$77,952	\$76,107	25.8	7.6	-2.4
<b>Tennessee</b>	\$65,815	\$77,527	\$80,392	\$85,744	17.8	3.7	6.7
Appalachian Tennessee	\$67,451	\$77,813	\$83,081	\$91,065	15.4	6.8	9.6
Non-Appalachian Tennessee	\$64,766	\$77,343	\$78,629	\$82,388	19.4	1.7	4.8
<b>Virginia</b>	\$80,599	\$99,922	\$107,993	\$110,539	24.0	8.1	2.4
Appalachian Virginia	\$47,256	\$59,573	\$61,188	\$60,668	26.1	2.7	-0.9
Non-Appalachian Virginia	\$81,206	\$100,564	\$108,679	\$111,264	23.8	8.1	2.4
<b>West Virginia (entire state)</b>	\$62,353	\$75,491	\$79,086	\$83,446	21.1	4.8	5.5

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Coal, Gas, and Other Mining

Employees engaged in the Coal, Gas, and Other Mining industry in Appalachia earned \$6.8 billion in 2017, accounting for 1.1 percent of the Region's total earnings. Earnings per employee in Appalachia were \$48,966, which was just 72 percent of the national average (\$67,769). In terms of recent changes, as shown in Figure 85 below, compared to the nation as a whole, the Region experienced less of a decline in average earnings in the most recent time period; the Region's earnings per employee fell 23.3 percent, compared to the national drop of 36.4 percent.

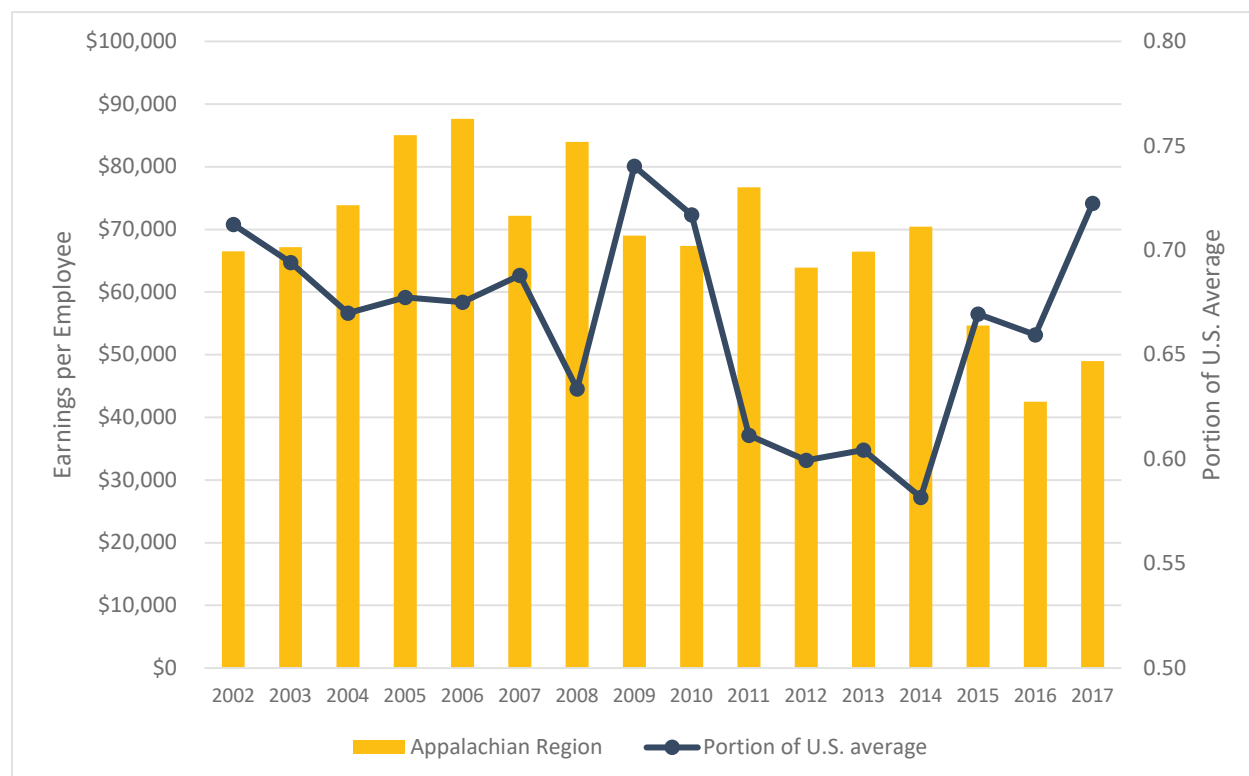
**Figure 85: Percent change in earnings per employee, Coal, Gas, and Other Mining, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

As seen in Figure 86, average Appalachian earnings as a percentage of the national average dropped from 75 percent in 2009 to 58 percent in 2014, before rising sharply to 72 percent in 2017.

**Figure 86: Earnings per employee in Appalachia, Coal, Gas, and Other Mining, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 39 shows earnings per Coal, Gas, and Other Mining sector employee throughout the Region. In the most recent period shown, we see that all five subregions experienced large declines in average earnings, with South Central Appalachia's dropping 50 percent. Earnings per employee in Central Appalachia were highest among the subregions in 2017 (\$58,746), despite declining 23.2 percent from 2012 to 2017.

Large metro areas throughout the Region, after seeing average earnings drop 41 percent from 2007 to 2012, had the smallest *decline* from 2012 to 2017, at 12.1 percent. The other metro designations experienced declines ranging from approximately 23 to 28 percent.

The Appalachian portions of four states saw growth over the most recent time period: South Carolina (31.5 percent), Georgia (23.1 percent), North Carolina (23 percent), and Maryland (1.1 percent). Two states with higher than average employment shares in this industry, Appalachian Kentucky and West Virginia, saw large decreases from 2012 to 2017, with declines of 30.8 percent and 21 percent, respectively.

**Table 39: Earnings per employee and percent change, Coal, Gas, and Other Mining, 2002–2017**

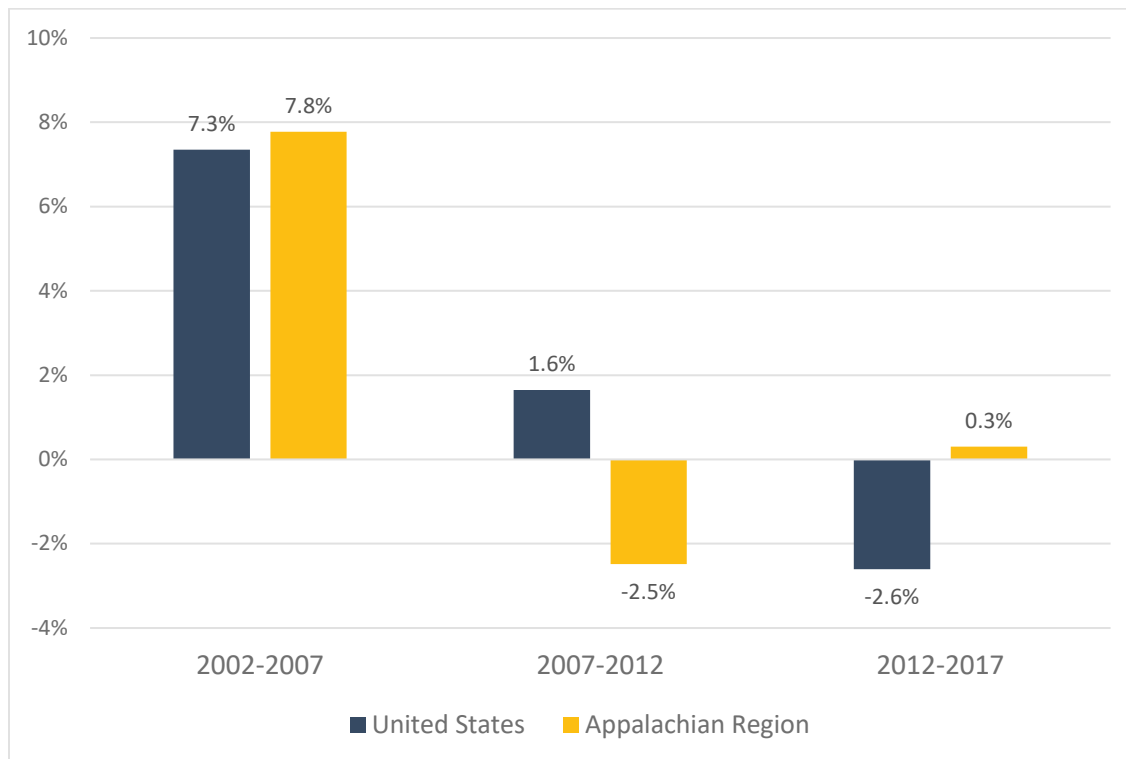
Coal, Gas, Other Mining	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$93,352	\$104,897	\$106,547	\$67,769	12.4	1.6	-36.4
<b>Appalachian Region</b>	\$66,501	\$72,179	\$63,875	\$48,966	8.5	-11.5	-23.3
<b>Non-Appalachian U.S.</b>	\$97,351	\$109,222	\$111,778	\$69,692	12.2	2.3	-37.7
<b>Subregions</b>							
Northern Appalachia	\$69,292	\$84,829	\$67,234	\$56,684	22.4	-20.7	-15.7
North Central Appalachia	\$57,070	\$57,540	\$49,071	\$37,158	0.8	-14.7	-24.3
Central Appalachia	\$70,499	\$74,791	\$76,485	\$58,746	6.1	2.3	-23.2
South Central Appalachia	\$37,627	\$50,743	\$58,198	\$29,126	34.9	14.7	-50.0
Southern Appalachia	\$77,122	\$64,946	\$56,664	\$35,554	-15.8	-12.8	-37.3
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$99,723	\$113,562	\$67,051	\$58,951	13.9	-41.0	-12.1
Small Metros (pop. <1 million)	\$64,891	\$67,857	\$69,216	\$49,600	4.6	2.0	-28.3
Nonmetro, Adjacent to Large Metros	\$63,499	\$69,884	\$61,956	\$47,401	10.1	-11.3	-23.5
Nonmetro, Adjacent to Small Metros	\$50,055	\$53,247	\$51,770	\$39,749	6.4	-2.8	-23.2
Rural (nonmetro, not adj. to a metro)	\$64,996	\$71,087	\$67,130	\$50,474	9.4	-5.6	-24.8
<b>Alabama</b>	\$79,075	\$66,700	\$60,263	\$33,621	-15.6	-9.7	-44.2
Appalachian Alabama	\$86,813	\$71,950	\$67,348	\$36,923	-17.1	-6.4	-45.2
Non-Appalachian Alabama	\$49,378	\$47,321	\$38,029	\$25,858	-4.2	-19.6	-32.0
<b>Georgia</b>	\$72,501	\$65,705	\$58,959	\$65,186	-9.4	-10.3	10.6
Appalachian Georgia	\$58,348	\$51,517	\$35,305	\$43,475	-11.7	-31.5	23.1
Non-Appalachian Georgia	\$76,051	\$70,227	\$66,806	\$72,794	-7.7	-4.9	9.0
<b>Kentucky</b>	\$66,593	\$70,147	\$60,157	\$23,780	5.3	-14.2	-60.5
Appalachian Kentucky	\$69,677	\$68,845	\$61,995	\$42,873	-1.2	-10.0	-30.8
Non-Appalachian Kentucky	\$60,230	\$72,485	\$57,855	\$4,239	20.3	-20.2	-92.7
<b>Maryland</b>	\$75,179	\$63,402	\$24,908	\$24,587	-15.7	-60.7	-1.3
Appalachian Maryland	\$76,452	\$57,501	\$59,419	\$60,056	-24.8	3.3	1.1
Non-Appalachian Maryland	\$74,745	\$64,629	\$18,827	\$19,768	-13.5	-70.9	5.0
<b>Mississippi</b>	\$72,413	\$88,179	\$88,720	\$30,441	21.8	0.6	-65.7
Appalachian Mississippi	\$48,166	\$44,838	\$39,249	\$22,292	-6.9	-12.5	-43.2
Non-Appalachian Mississippi	\$74,853	\$91,448	\$93,107	\$31,196	22.2	1.8	-66.5
<b>New York</b>	\$134,130	\$106,846	\$88,370	\$172,636	-20.3	-17.3	95.4
Appalachian New York	\$40,316	\$42,645	\$61,199	\$56,493	5.8	43.5	-7.7
Non-Appalachian New York	\$163,476	\$125,104	\$95,989	\$201,315	-23.5	-23.3	109.7
<b>North Carolina</b>	\$33,696	(\$17,101)	\$22,807	\$27,748	-150.8	-233.4	21.7
Appalachian North Carolina	\$39,229	\$42,249	\$28,322	\$34,843	7.7	-33.0	23.0
Non-Appalachian North Carolina	\$31,977	(\$36,000)	\$21,209	\$25,769	-212.6	-158.9	21.5
<b>Ohio</b>	\$50,985	\$69,852	\$55,378	\$45,916	37.0	-20.7	-17.1
Appalachian Ohio	\$42,995	\$50,492	\$41,421	\$33,872	17.4	-18.0	-18.2
Non-Appalachian Ohio	\$57,373	\$86,933	\$67,182	\$56,390	51.5	-22.7	-16.1
<b>Pennsylvania</b>	\$72,954	\$89,469	\$67,855	\$55,708	22.6	-24.2	-17.9
Appalachian Pennsylvania	\$75,859	\$94,811	\$70,145	\$58,011	25.0	-26.0	-17.3
Non-Appalachian Pennsylvania	\$56,084	\$53,768	\$44,470	\$35,216	-4.1	-17.3	-20.8
<b>South Carolina</b>	\$42,838	\$38,099	\$18,272	\$25,526	-11.1	-52.0	39.7
Appalachian South Carolina	\$47,673	\$43,185	\$16,169	\$21,254	-9.4	-62.6	31.5
Non-Appalachian South Carolina	\$41,326	\$36,692	\$18,800	\$26,706	-11.2	-48.8	42.1
<b>Tennessee</b>	\$36,096	\$43,259	\$31,998	\$27,921	19.8	-26.0	-12.7
Appalachian Tennessee	\$33,269	\$42,306	\$30,794	\$26,214	27.2	-27.2	-14.9
Non-Appalachian Tennessee	\$40,165	\$44,486	\$33,262	\$29,543	10.8	-25.2	-11.2
<b>Virginia</b>	\$47,956	\$60,522	\$64,146	\$31,164	26.2	6.0	-51.4
Appalachian Virginia	\$64,000	\$79,257	\$100,816	\$66,434	23.8	27.2	-34.1
Non-Appalachian Virginia	\$22,804	\$39,666	\$29,527	\$10,443	73.9	-25.6	-64.6
<b>West Virginia (entire state)</b>	\$68,518	\$70,240	\$66,222	\$52,288	2.5	-5.7	-21.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Utilities

Appalachian workers in the Utilities industry earned \$6.2 billion in 2017, which represented 1 percent of total earnings in the Region. Appalachian workers earned \$109,314 on average, though this was just 87 percent of the national figure of \$125,893. As seen in Figure 87, though the growth was only slight, the Region performed better relative to the country overall from 2012 to 2017, which experienced a decline in average earnings.

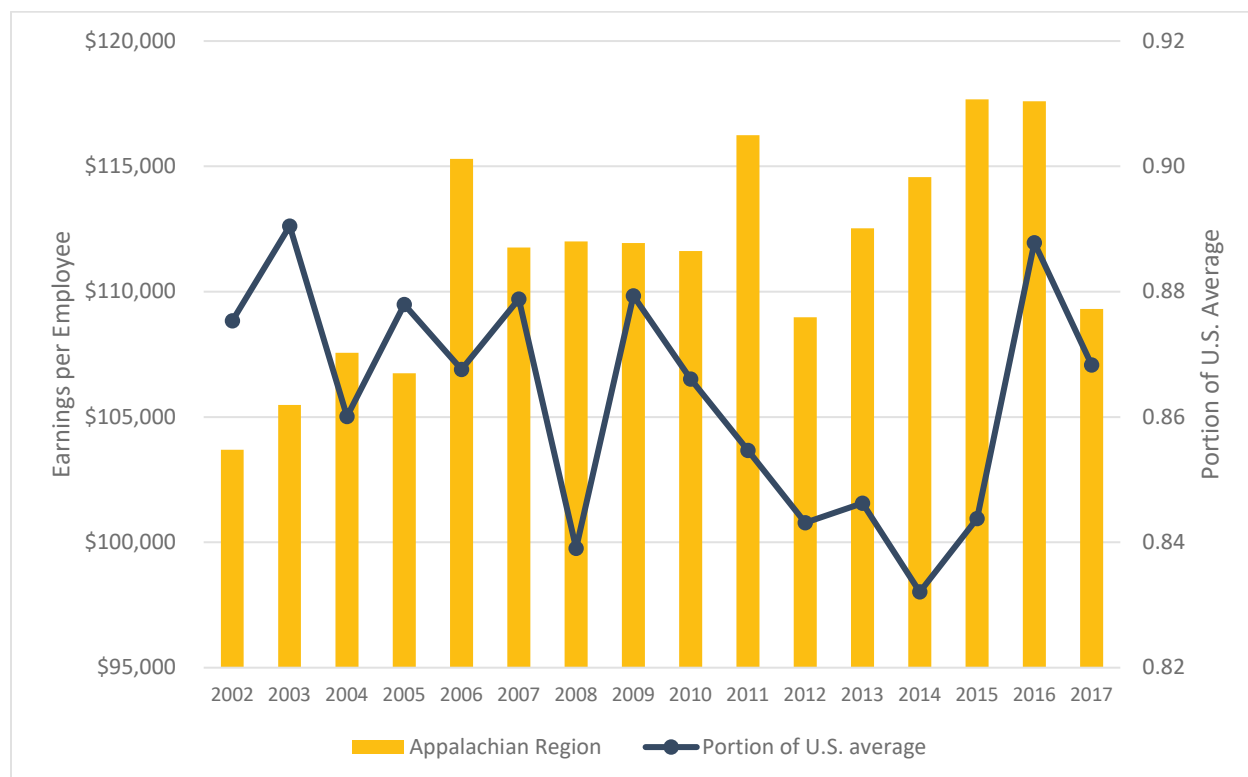
**Figure 87: Percent change in earnings per employee, Utilities, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 88, we see that earnings per sector employee in Appalachia as a percentage of the national average dropped from 88 percent in 2009 to 83 percent in 2014, before rising sharply to 89 percent in 2016. The following year then experienced a slight decline, dropping to 87 percent in 2017.

**Figure 88: Earnings per employee in Appalachia, Utilities, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 40 shows earnings per sector employee throughout the Region. Only Southern Appalachia, the subregion with the highest average earnings in 2017 (\$116,186) saw an increase in earnings per employee over the 2012–2017 period (5.5 percent). South Central Appalachia had the lowest average earnings in 2017 (\$76,822), after seeing its wages fall 12.1 percent from 2012 to 2017. Large metro areas experienced the largest increase in earnings per employee from 2012 to 2017, at 3.9 percent. Rural areas also experienced modest growth of 2.7 percent during the time period.

Appalachian Mississippi saw the largest growth in average earnings from 2012 to 2017, increasing 18.2 percent. The Appalachian portions of Alabama (7.3 percent) and New York (4.7 percent) saw the next-largest growth over the period. Meanwhile, the Appalachian portions of North Carolina, Maryland, and Tennessee all saw large drops, with declines of 17.7 percent, 13.3 percent, and 12.5 percent, respectively.

**Table 40: Earnings per employee and percent change, Utilities, 2002–2017**

Utilities	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$118,458	\$127,164	\$129,258	\$125,893	7.3	1.6	-2.6
<b>Appalachian Region</b>	\$103,695	\$111,758	\$108,980	\$109,314	7.8	-2.5	0.3
<b>Non-Appalachian U.S.</b>	\$120,041	\$128,719	\$131,237	\$127,451	7.2	2.0	-2.9
<b>Subregions</b>							
Northern Appalachia	\$106,128	\$122,038	\$114,725	\$113,882	15.0	-6.0	-0.7
North Central Appalachia	\$100,926	\$103,977	\$111,063	\$110,958	3.0	6.8	-0.1
Central Appalachia	\$87,831	\$86,447	\$88,009	\$81,978	-1.6	1.8	-6.9
South Central Appalachia	\$88,590	\$93,957	\$87,383	\$76,822	6.1	-7.0	-12.1
Southern Appalachia	\$108,544	\$113,120	\$110,178	\$116,186	4.2	-2.6	5.5
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$115,883	\$133,241	\$121,914	\$126,659	15.0	-8.5	3.9
Small Metros (pop. <1 million)	\$100,960	\$107,492	\$106,029	\$103,514	6.5	-1.4	-2.4
Nonmetro, Adjacent to Large Metros	\$102,291	\$104,375	\$106,332	\$102,207	2.0	1.9	-3.9
Nonmetro, Adjacent to Small Metros	\$95,380	\$99,805	\$102,657	\$103,265	4.6	2.9	0.6
Rural (nonmetro, not adj. to a metro)	\$88,218	\$88,807	\$88,829	\$91,261	0.7	0.0	2.7
<b>Alabama</b>	\$114,263	\$118,925	\$112,701	\$120,991	4.1	-5.2	7.4
Appalachian Alabama	\$123,203	\$125,836	\$118,607	\$127,235	2.1	-5.7	7.3
Non-Appalachian Alabama	\$96,609	\$102,660	\$98,221	\$106,531	6.3	-4.3	8.5
<b>Georgia</b>	\$72,057	\$104,919	\$107,638	\$119,974	45.6	2.6	11.5
Appalachian Georgia	\$93,391	\$99,317	\$97,186	\$100,582	6.3	-2.1	3.5
Non-Appalachian Georgia	\$66,655	\$106,600	\$110,557	\$126,086	59.9	3.7	14.0
<b>Kentucky</b>	\$97,717	\$94,500	\$96,490	\$95,429	-3.3	2.1	-1.1
Appalachian Kentucky	\$87,970	\$84,633	\$85,382	\$83,853	-3.8	0.9	-1.8
Non-Appalachian Kentucky	\$101,681	\$98,400	\$101,142	\$99,680	-3.2	2.8	-1.4
<b>Maryland</b>	\$94,118	\$156,530	\$148,296	\$161,137	66.3	-5.3	8.7
Appalachian Maryland	\$127,451	\$93,229	\$108,183	\$93,783	-26.9	16.0	-13.3
Non-Appalachian Maryland	\$92,368	\$158,916	\$149,863	\$163,639	72.0	-5.7	9.2
<b>Mississippi</b>	\$84,715	\$91,661	\$90,624	\$91,682	8.2	-1.1	1.2
Appalachian Mississippi	\$67,881	\$70,764	\$76,365	\$90,283	4.2	7.9	18.2
Non-Appalachian Mississippi	\$88,828	\$97,230	\$94,013	\$92,123	9.5	-3.3	-2.0
<b>New York</b>	\$128,516	\$140,119	\$140,512	\$131,789	9.0	0.3	-6.2
Appalachian New York	\$112,089	\$113,587	\$107,387	\$112,467	1.3	-5.5	4.7
Non-Appalachian New York	\$129,674	\$141,707	\$142,356	\$132,680	9.3	0.5	-6.8
<b>North Carolina</b>	\$107,142	\$138,474	\$140,779	\$109,227	29.2	1.7	-22.4
Appalachian North Carolina	\$92,315	\$108,164	\$96,556	\$79,433	17.2	-10.7	-17.7
Non-Appalachian North Carolina	\$110,084	\$143,971	\$148,717	\$114,430	30.8	3.3	-23.1
<b>Ohio</b>	\$109,584	\$115,147	\$114,906	\$116,560	5.1	-0.2	1.4
Appalachian Ohio	\$105,402	\$108,640	\$113,437	\$113,492	3.1	4.4	0.0
Non-Appalachian Ohio	\$111,161	\$117,799	\$115,484	\$117,555	6.0	-2.0	1.8
<b>Pennsylvania</b>	\$124,782	\$144,711	\$127,081	\$121,658	16.0	-12.2	-4.3
Appalachian Pennsylvania	\$105,297	\$127,528	\$116,442	\$114,399	21.1	-8.7	-1.8
Non-Appalachian Pennsylvania	\$148,137	\$167,763	\$140,766	\$130,071	13.2	-16.1	-7.6
<b>South Carolina</b>	\$98,179	\$104,101	\$106,915	\$112,813	6.0	2.7	5.5
Appalachian South Carolina	\$104,186	\$121,409	\$125,409	\$130,065	16.5	3.3	3.7
Non-Appalachian South Carolina	\$97,065	\$100,832	\$104,253	\$109,944	3.9	3.4	5.5
<b>Tennessee</b>	\$92,855	\$96,271	\$89,635	\$68,050	3.7	-6.9	-24.1
Appalachian Tennessee	\$83,286	\$78,494	\$76,266	\$66,700	-5.8	-2.8	-12.5
Non-Appalachian Tennessee	\$101,009	\$110,150	\$99,715	\$69,042	9.0	-9.5	-30.8
<b>Virginia</b>	\$119,348	\$121,142	\$126,706	\$124,724	1.5	4.6	-1.6
Appalachian Virginia	\$95,323	\$95,391	\$90,070	\$92,676	0.1	-5.6	2.9
Non-Appalachian Virginia	\$121,917	\$124,061	\$130,143	\$127,335	1.8	4.9	-2.2
<b>West Virginia (entire state)</b>	\$95,975	\$102,176	\$109,107	\$109,657	6.5	6.8	0.5

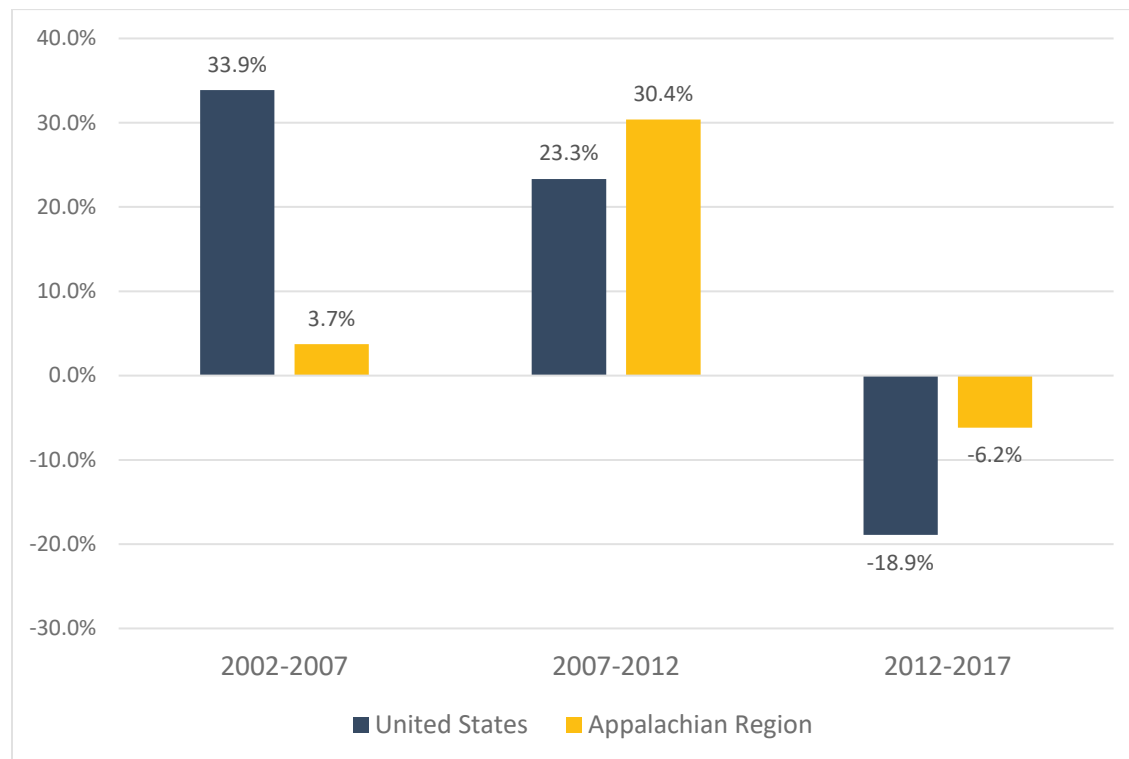
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Farming and Forestry

Employees in the Farming and Forestry industry throughout Appalachia earned \$4.5 billion in 2017, which accounted for 0.7 percent of the Region's total earnings. Average earnings in the Region were \$13,726, which was less than half of the national average (\$28,111). As seen in Figure 89, though both the Appalachian Region and the United States experienced declines in average earnings during the 2012–2017 period, the Region's decrease (6.2 percent) was less than what took place for the country overall (18.9 percent).

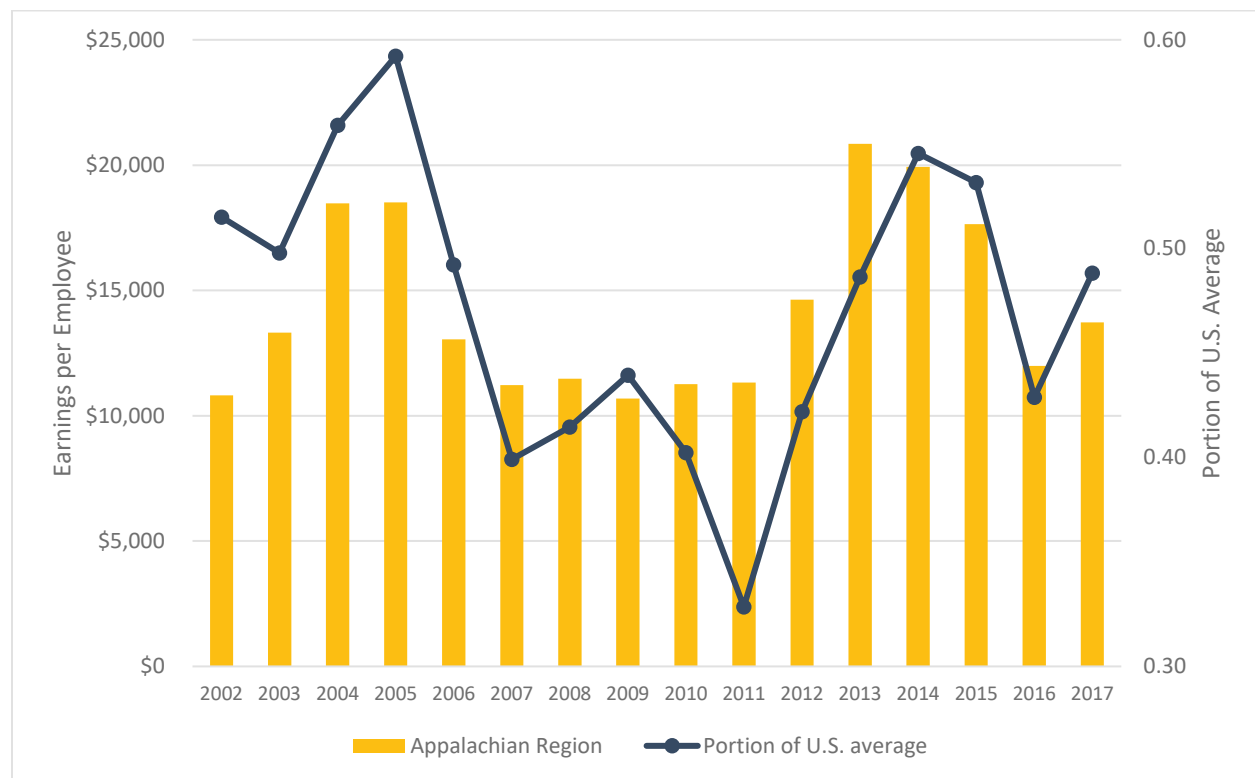
**Figure 89: Percent change in earnings per employee, Farming and Forestry, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 90 we see earnings per sector employee in Appalachia as a percentage of the national average since 2002. There was a great deal of change over the years, both in terms of earnings per employee in the Region, as well as how these average earnings stacked up to the national average. In 2005, average Appalachian earnings were 59 percent of the national average—the high during the 2002–2017 period—before dropping to 33 percent in 2011. This rose to 55 percent in 2014, and in 2017 average earnings in the Region were 49 percent of the national average.

**Figure 90: Earnings per employee in Appalachia, Farming and Forestry, 2002–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 41 shows earnings per sector employee and recent changes across the Appalachian Region. North Central and Central Appalachia reported the lowest earnings per employee in 2017, at \$3,355 and \$2,598, respectively. Southern Appalachia, after experiencing 20.8 percent growth from 2012 to 2017, had the highest average earnings among the subregions in 2017, at \$25,924.

Only nonmetro counties adjacent to large metro areas saw an increase in earnings per employee from 2012 to 2017, though growth was only 1.1 percent.

Table 41 shows a wide range of average Farming and Forestry earnings and percent changes. The Appalachian portions of Georgia (\$46,271) and North Carolina (\$24,057) had the highest average earnings in the Region in 2017.

**Table 41: Earnings per employee and percent change, Farming and Forestry, 2002–2017**

Farming, Forestry	Earnings per employee				Percent change		
	2002	2007	2012	2017	2002-2007	2007-2012	2012-2017
<b>United States</b>	\$20,994	\$28,104	\$34,661	\$28,111	33.9	23.3	-18.9
<b>Appalachian Region</b>	\$10,816	\$11,218	\$14,628	\$13,726	3.7	30.4	-6.2
<b>Non-Appalachian U.S.</b>	\$22,080	\$29,895	\$36,692	\$29,559	35.4	22.7	-19.4
<b>Subregions</b>							
Northern Appalachia	\$10,476	\$16,340	\$22,010	\$15,526	56.0	34.7	-29.5
North Central Appalachia	\$4,153	\$4,071	\$6,377	\$3,355	-2.0	56.6	-47.4
Central Appalachia	\$4,152	\$1,786	\$3,823	\$2,598	-57.0	114.0	-32.0
South Central Appalachia	\$9,609	\$7,463	\$9,643	\$10,758	-22.3	29.2	11.6
Southern Appalachia	\$20,014	\$18,271	\$21,459	\$25,924	-8.7	17.4	20.8
<b>County Types</b>							
Large Metros (pop. 1 million +)	\$10,123	\$9,987	\$17,759	\$15,829	-1.3	77.8	-10.9
Small Metros (pop. <1 million)	\$10,357	\$10,304	\$12,841	\$11,600	-0.5	24.6	-9.7
Nonmetro, Adjacent to Large Metros	\$13,630	\$15,168	\$17,422	\$17,610	11.3	14.9	1.1
Nonmetro, Adjacent to Small Metros	\$11,651	\$11,753	\$15,755	\$14,960	0.9	34.0	-5.0
Rural (nonmetro, not adj. to a metro)	\$8,510	\$9,437	\$12,157	\$11,252	10.9	28.8	-7.4
<b>Alabama</b>	\$24,357	\$20,557	\$19,112	\$27,318	-15.6	-7.0	42.9
Appalachian Alabama	\$20,042	\$15,912	\$13,072	\$22,096	-20.6	-17.8	69.0
Non-Appalachian Alabama	\$30,235	\$27,170	\$27,339	\$34,441	-10.1	0.6	26.0
<b>Georgia</b>	\$32,335	\$34,508	\$43,219	\$33,580	6.7	25.2	-22.3
Appalachian Georgia	\$30,778	\$25,176	\$42,033	\$46,271	-18.2	67.0	10.1
Non-Appalachian Georgia	\$32,862	\$37,652	\$43,618	\$29,415	14.6	15.8	-32.6
<b>Kentucky</b>	\$10,603	\$12,310	\$13,472	\$15,001	16.1	9.4	11.3
Appalachian Kentucky	\$4,327	\$3,023	\$3,266	\$2,029	-30.1	8.0	-37.9
Non-Appalachian Kentucky	\$13,711	\$16,902	\$18,768	\$21,616	23.3	11.0	15.2
<b>Maryland</b>	\$15,403	\$19,820	\$31,422	\$22,697	28.7	58.5	-27.8
Appalachian Maryland	\$12,861	\$17,174	\$27,347	\$9,715	33.5	59.2	-64.5
Non-Appalachian Maryland	\$15,696	\$20,155	\$31,929	\$24,255	28.4	58.4	-24.0
<b>Mississippi</b>	\$19,745	\$27,757	\$22,787	\$22,228	40.6	-17.9	-2.5
Appalachian Mississippi	\$10,239	\$18,972	\$18,445	\$17,192	85.3	-2.8	-6.8
Non-Appalachian Mississippi	\$22,958	\$30,876	\$24,410	\$24,058	34.5	-20.9	-1.4
<b>New York</b>	\$15,971	\$27,170	\$32,534	\$23,002	70.1	19.7	-29.3
Appalachian New York	\$10,056	\$17,845	\$22,376	\$16,020	77.5	25.4	-28.4
Non-Appalachian New York	\$18,082	\$30,441	\$35,743	\$25,242	68.3	17.4	-29.4
<b>North Carolina</b>	\$24,385	\$33,907	\$42,056	\$40,125	39.1	24.0	-4.6
Appalachian North Carolina	\$20,084	\$21,177	\$18,015	\$24,057	5.4	-14.9	33.5
Non-Appalachian North Carolina	\$25,770	\$38,247	\$50,048	\$45,228	48.4	30.9	-9.6
<b>Ohio</b>	\$10,280	\$16,565	\$23,297	\$7,800	61.1	40.6	-66.5
Appalachian Ohio	\$7,945	\$9,321	\$10,698	\$6,918	17.3	14.8	-35.3
Non-Appalachian Ohio	\$11,397	\$19,959	\$29,470	\$8,237	75.1	47.7	-72.0
<b>Pennsylvania</b>	\$14,408	\$21,399	\$28,461	\$19,455	48.5	33.0	-31.6
Appalachian Pennsylvania	\$10,364	\$17,255	\$24,628	\$17,417	66.5	42.7	-29.3
Non-Appalachian Pennsylvania	\$20,211	\$27,559	\$33,452	\$22,049	36.4	21.4	-34.1
<b>South Carolina</b>	\$15,087	\$16,692	\$19,564	\$13,209	10.6	17.2	-32.5
Appalachian South Carolina	\$11,334	\$10,868	\$14,188	\$6,438	-4.1	30.5	-54.6
Non-Appalachian South Carolina	\$15,987	\$18,070	\$20,756	\$14,640	13.0	14.9	-29.5
<b>Tennessee</b>	\$19,480	\$11,506	\$7,060	\$3,236	-40.9	-38.6	-54.2
Appalachian Tennessee	\$4,598	\$544	\$5,685	\$5,987	-88.2	945.7	5.3
Non-Appalachian Tennessee	\$36,213	\$23,696	\$8,574	\$275	-34.6	-63.8	-96.8
<b>Virginia</b>	\$11,515	\$9,324	\$15,122	\$9,857	-19.0	62.2	-34.8
Appalachian Virginia	\$5,848	\$1,654	\$5,116	(\$32)	-71.7	209.2	-100.6
Non-Appalachian Virginia	\$13,857	\$12,343	\$18,903	\$13,556	-10.9	53.2	-28.3
<b>West Virginia (entire state)</b>	\$3,894	\$2,380	\$5,086	\$3,205	-38.9	113.7	-37.0

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Chapter 6: Summary

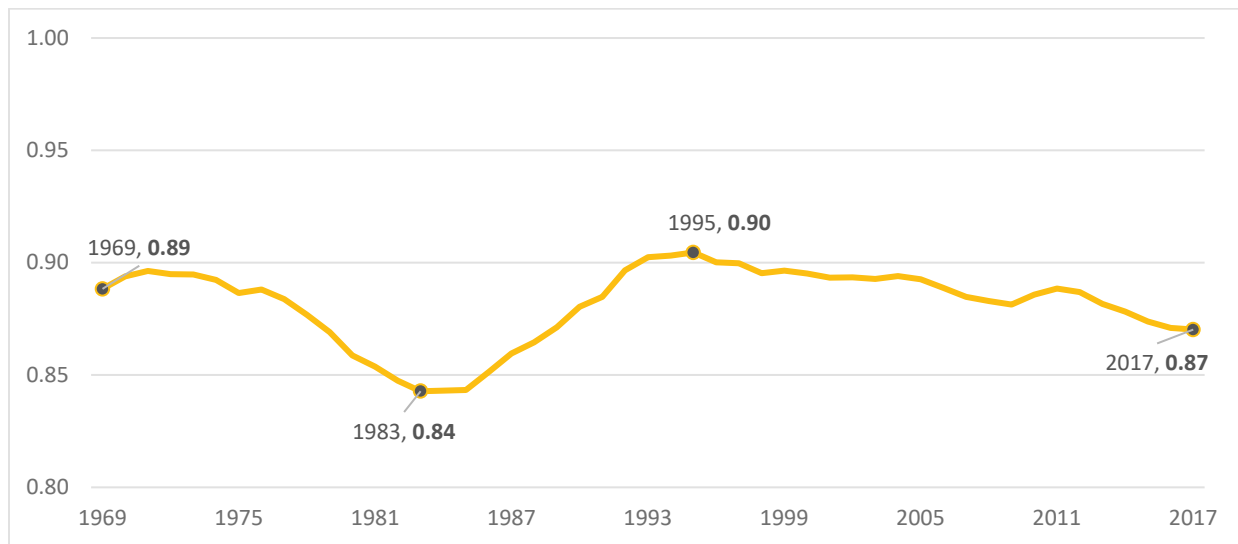
This report examined the industrial make-up of the Appalachian Region, with two frameworks used throughout: 1) the Region compared to the United States as a whole, and 2) variations found within the Region. Broad industrial categories (of the North American Industry Classification System) were considered—15 in total—and within each one of these, both employment and earnings were examined. Particular attention was given to the 15-year period from 2002 to 2017, though historical data were provided for context in some instances.

### Employment and Population

From 1969 to 2017, Appalachia's share of the U.S. population declined from 9.6 percent to 7.9 percent. Over the same period, the Region's share of the country's overall employment also dropped, from 8.5 percent to 6.8 percent. The straightforward takeaway here is that a smaller percentage of the nation's population lives and works in Appalachia today than nearly a half-century ago.

Appalachia's share of U.S. employment in relation to Appalachia's share of the U.S. population also declined: In 1969, the ratio for the Appalachian Region was 0.89; in 2017, the value was 0.87. The low for the Region during the intervening period came in 1983, at 0.84, and the high in 1995, at 0.90.

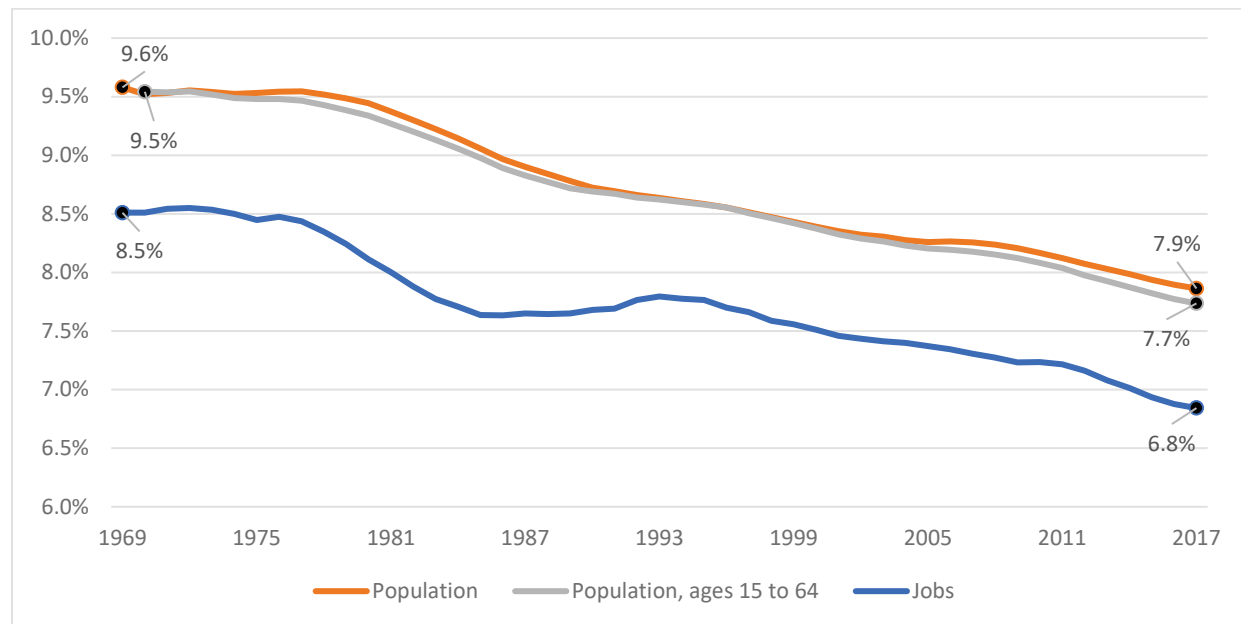
**Figure 91: Ratio of Appalachia's share of U.S. employment to share of U.S. population, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Appalachia's working-age population has also declined in recent years, with the Region accounting for a lower percentage of the country's 15-64 population in 2017, at 7.7 percent, than in 2002, when the figure was 8.3 percent (in 1970, Appalachia was home to 9.5 percent of the country's working-age population). Given the decline in the Region's share of the country's population, we would expect this corresponding decline in a large subpopulation. However, noteworthy here is that the Region's share of the U.S. working-age population (7.7 percent) was less than its share of overall population (7.9 percent) in 2017. This aligns with other research indicating that Appalachia's population has an older age profile than the country as a whole.

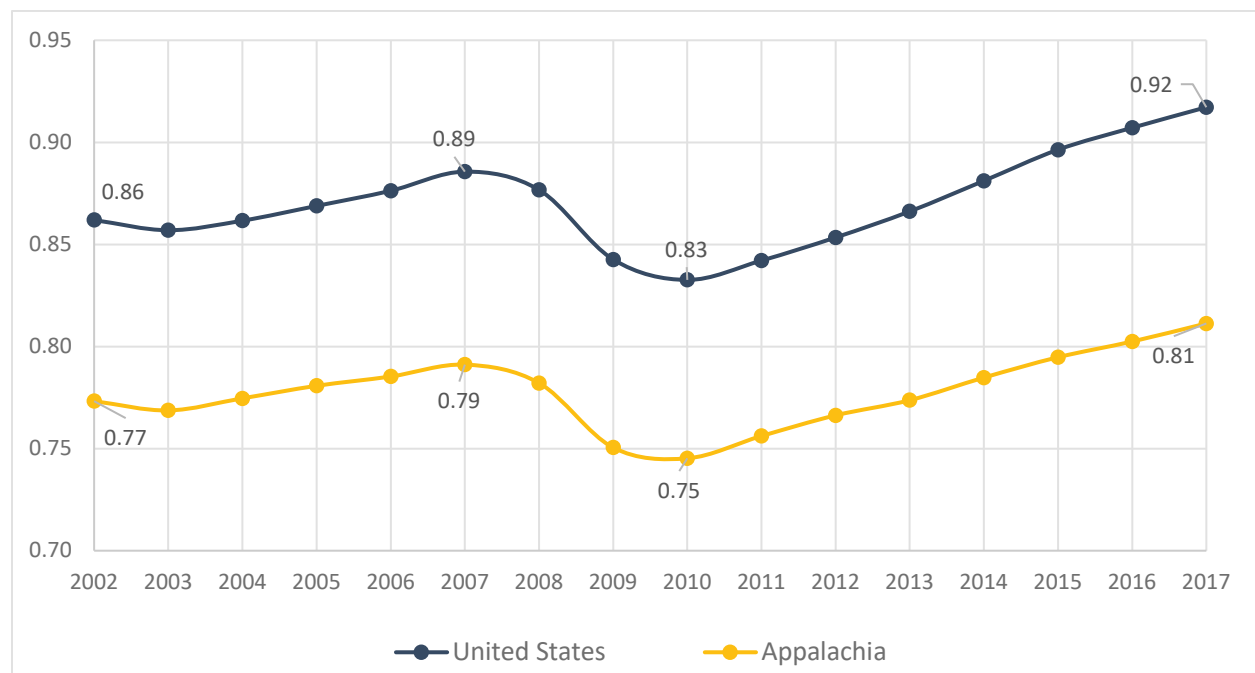
**Figure 92: Percentage of U.S. totals in Appalachia: Population, working-age population, and jobs, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Another way to look at the equilibrium between employment and people in a given area is by examining the ratio of employment to the working-age population; a value of 1.0 would indicate that there is one documented job for every person ages 15-64 in a given area (though this would be highly unlikely for a large area, as the working-age population numbers do not take into account labor force participation). As seen in Figure 93, after bottoming out in 2010, these ratios have improved for both the Region and country overall. However, Appalachia still lagged far behind the United States overall; the employment to working-age population ratio in 2017 was 0.81 for Appalachia and 0.92 for the United States as a whole.

**Figure 93: Employment to working-age population ratios, 2002–2017**



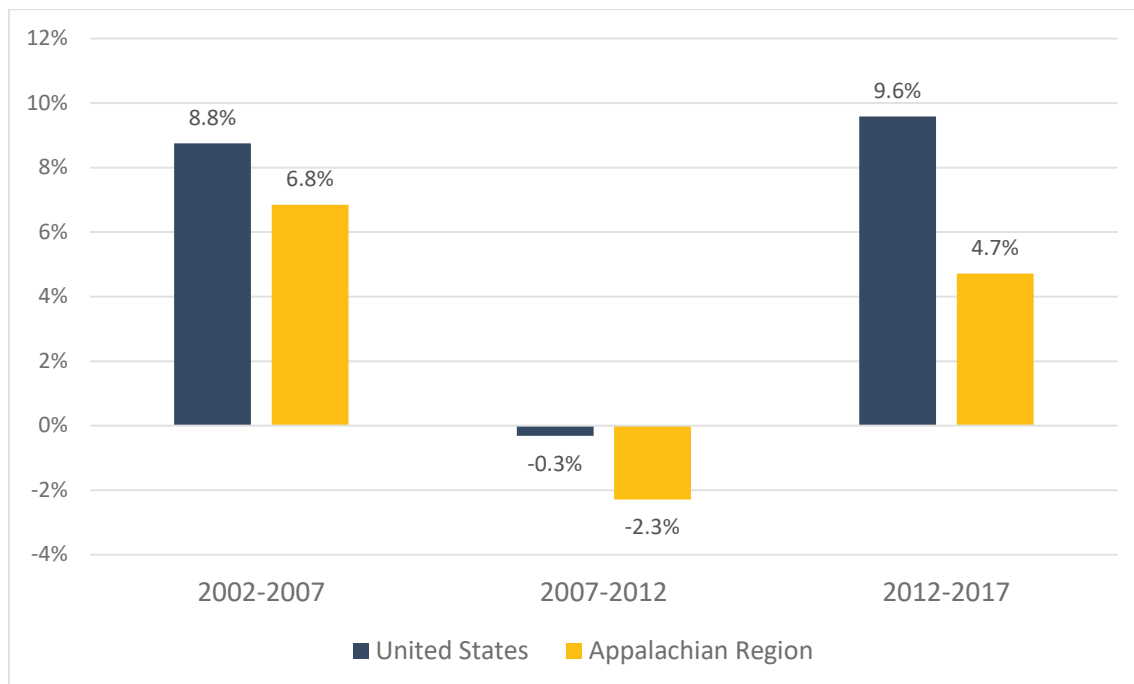
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Industrial Make-up and Employment Growth

Employment was broken down into 15 distinct industrial categories in this report, with particular focus given to each industry's share of total employment—its industrial share—for any given geography, as well as how employment has grown or declined over recent years. Industrial shares were tracked from 2002 to 2017, and growth rates were considered for the following three time periods: 2002–2007, 2007–2012, and 2012–2017.

As seen in Figure 94, if we consider employment across all industries, we see that employment growth in the Appalachian Region lagged behind that of the United States during both 2002–2007 and 2012–2017. In the intervening period, a five-year span that includes the Great Recession, the Region's decline was sharper than that of the United States overall: a 2.3 percent decline in employment in the Appalachian Region, compared to a 0.3 percent drop in the country overall.

**Figure 94: Percent change in employment, all industries, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 42 we see how the industrial make-up of the Region compared to that of the United States overall in 2017. Professional and Technical Services claimed the largest industrial share for both geographies, at 12.1 percent of employment in the Region and 14.5 percent in the country overall. Health and Social Services was second, with the industry accounting for 11.6 percent of employment in Appalachia and 11.3 percent in the United States. If we consider these two industrial categories along with two others—Finance, Insurance, and Real Estate and Education and Information Services—we get a rough estimation of “service economy” employment.

**Table 42: Industrial shares, Appalachia and the United States, 2017**

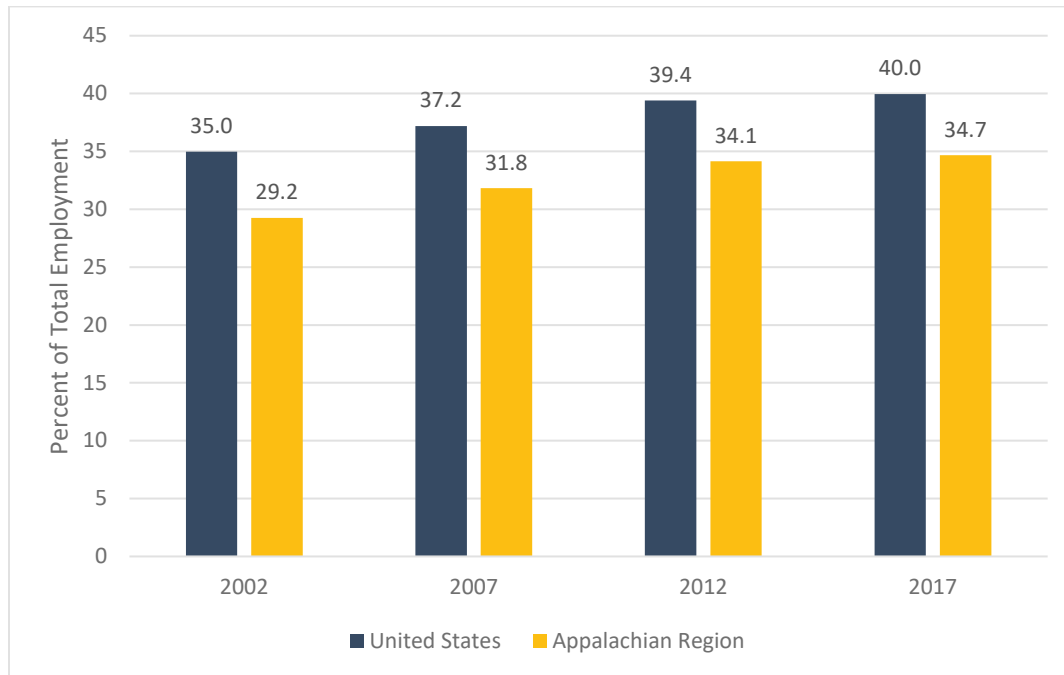
Employment (thousands) and Industrial Shares, 2017	Appalachian Region		United States	
	<i>Employment</i>	<i>Ind. Share (%)</i>	<i>Employment</i>	<i>Ind. Share (%)</i>
Professional, Technical Services	1,619	12.1	28,479	14.5
Health, Social Services	1,562	11.6	22,199	11.3
Retail Trade	1,493	11.1	19,222	9.8
State and Local Government	1,488	11.1	19,619	10.0
Manufacturing	1,342	10.0	13,307	6.8
Food, Lodging, Entertainment	1,240	9.2	19,155	9.8
Finance, Insurance, Real Estate	1,040	7.8	19,616	10.0
Wholesale Trade, Transportation	874	6.5	14,148	7.2
Personal, Other Services	793	5.9	11,170	5.7
Construction	775	5.8	10,636	5.4
Education, Information Services	432	3.2	8,075	4.1
Farming, Forestry	325	2.4	3,552	1.8
Federal Government, Military	241	1.8	4,786	2.4
Coal, Gas, Other Mining	140	1.0	1,505	0.8
Utilities	57	0.4	664	0.3
<i>Total Employment</i>	<i>13,420</i>	<i>100</i>	<i>196,132</i>	<i>100</i>

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



In Figure 95, we are able to track the changes in “service economy” employment over the years. Though the change has been subtle, the Region has closed the gap with the United States in terms of share of employment dedicated to the four industries, increasing from 29.2 percent in 2002 to 34.7 percent in 2017.

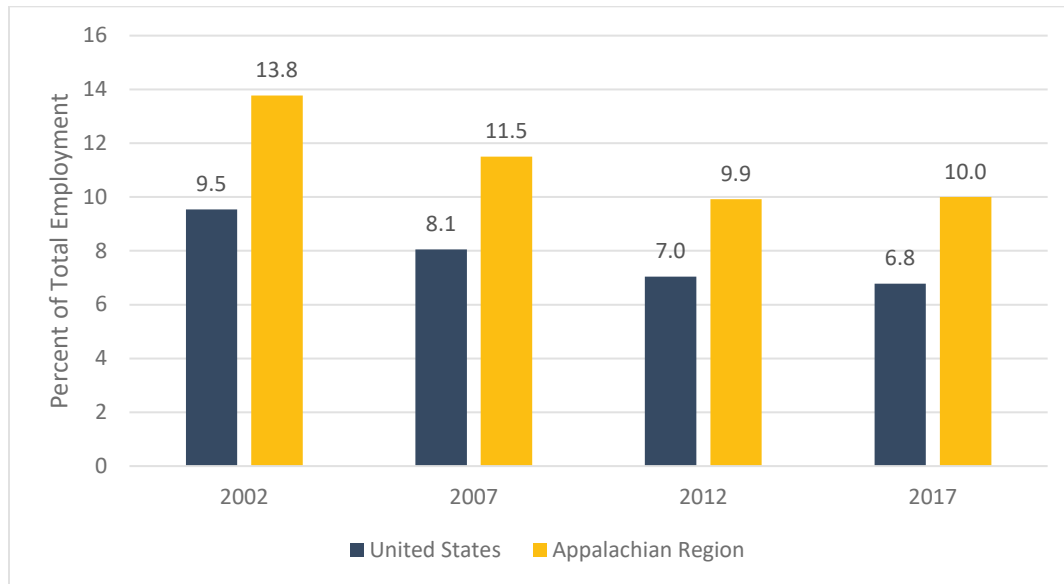
**Figure 95: Industrial shares in the “service economy,” 2002, 2007, 2012, and 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

One notable difference shown in Table 42 relates to employment in the Manufacturing industry, with the Region having a much larger share of its overall employment dedicated to the sector than the country as a whole: 10 percent in 2017 for Appalachia, compared to 6.8 percent for the United States. Compared to its share in 2002, Manufacturing’s share of 2017 employment was much lower, as seen in Figure 96. Though the dip over the past 15 years has been sharp—for both the Region and country overall—between 2012 and 2017, the Region saw a small increase in its Manufacturing industrial share, whereas there was a slight decline for the United States as a whole.

**Figure 96: Industrial shares in Manufacturing, 2002, 2007, 2012, and 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Table 43, we see industrial shares for Appalachia since 2002, ranked by shares in 2017. In addition to the trends noted above, we also see a decline in Retail Trade’s industrial share, dropping from 12.3 percent in 2002 to 11.1 percent in 2017. Construction’s share of employment declined slightly across the same period, as well, dropping from 6.3 percent to 5.8 percent. Farming and Forestry also saw a decrease, from 2.9 percent in 2002 to 2.4 percent in 2017. Meanwhile, Food, Lodging, and Entertainment saw its industrial share rise from 7.9 percent in 2002 to 9.2 percent in 2017.

**Table 43: Industrial shares (%) in Appalachia, 2002, 2007, 2012, 2017**

	2002	2007	2012	2017
Professional, Technical Services	9.9	11.1	11.8	12.1
Health, Social Services	9.9	10.6	11.6	11.6
Retail Trade	12.3	11.8	11.4	11.1
State and Local Government	11.7	11.5	11.7	11.1
Manufacturing	13.8	11.5	9.9	10.0
Food, Lodging, Entertainment	7.9	8.3	8.7	9.2
Finance, Insurance, Real Estate	6.1	6.9	7.5	7.8
Wholesale Trade, Transportation	6.5	6.6	6.4	6.5
Personal, Other Services	6.0	5.8	6.0	5.9
Construction	6.3	6.8	5.6	5.8
Education, Information Services	3.3	3.2	3.3	3.2
Farming, Forestry	2.9	2.6	2.5	2.4
Federal Government, Military	2.1	1.9	2.0	1.8
Coal, Gas, Other Mining	0.8	0.9	1.3	1.0
Utilities	0.5	0.4	0.4	0.4

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Table 44 offers a simpler look at the Region’s industrial make-up, with each industry’s ranking—out of 15—provided since 2002.

**Table 44: Ranking of industrial shares in Appalachia, 2002, 2007, 2012, 2017**

	2002	2007	2012	2017
Professional, Technical Services	5	4	1	1
Health, Social Services	4	5	3	2
Retail Trade	2	1	4	3
State and Local Government	3	2	2	4
Manufacturing	1	3	5	5
Food, Lodging, Entertainment	6	6	6	6
Finance, Insurance, Real Estate	9	7	7	7
Wholesale Trade, Transportation	7	9	8	8
Personal, Other Services	10	10	9	9
Construction	8	8	10	10
Education, Information Services	11	11	11	11
Farming, Forestry	12	12	12	12
Federal Government, Military	13	13	13	13
Coal, Gas, Other Mining	14	14	14	14
Utilities	15	15	15	15

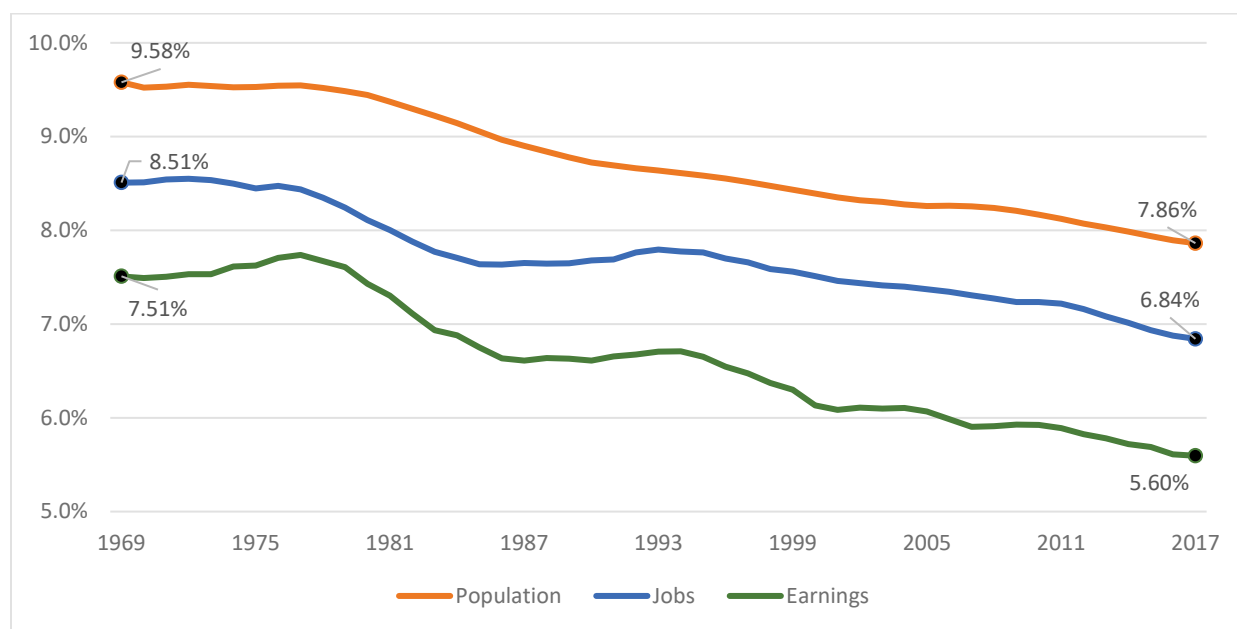
Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Earnings and Employment

Earlier, when comparing employment and population in Appalachia, we postulated that if the Region was home to a specific percentage of the country's total population, we could reasonably expect a similar percentage of the country's total employment being in the Region, as well.

We can use the same lens when considering earnings and employment: If a geographic area has a certain percentage of the country's total employment, we expect that area to be home to the same percentage of the country's total earnings. However, as seen in Figure 97, when we compare earnings in Appalachia to both population and employment, we see that the Region's earnings as a percentage of the U.S. total are less than its shares of both population and employment—and that this discrepancy has been present since 1969. In fact, the relative gap between employment and earnings has widened some over the past half-century: In 1969, the Region was home to 8.5 percent of the country's jobs and 7.5 percent of its earnings. By 2017, Appalachia's shares had dropped to 6.8 percent of jobs and 5.6 percent of earnings.

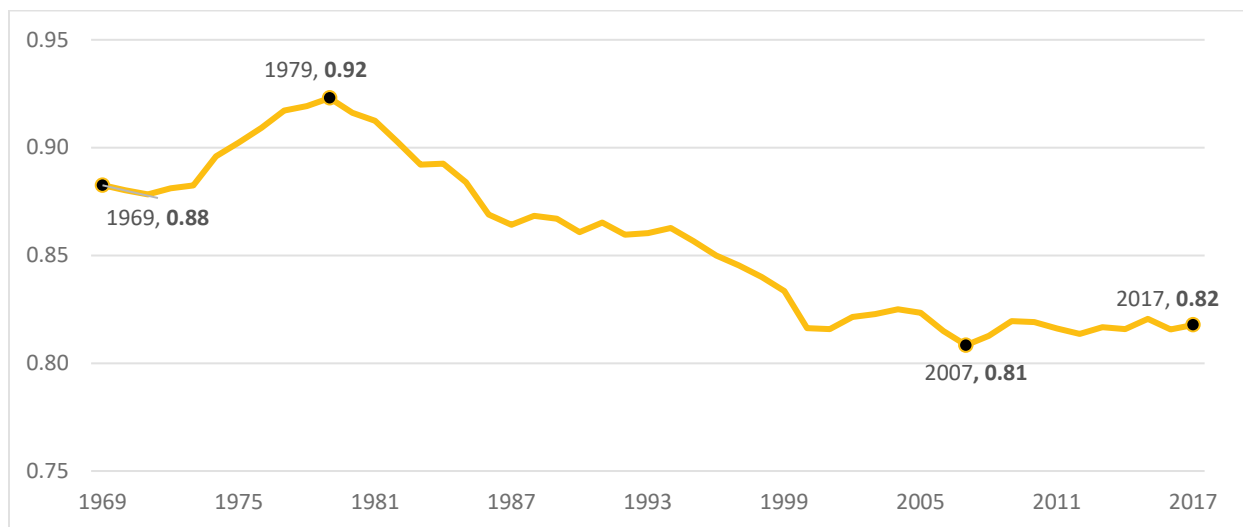
**Figure 97: Percentage of U.S. population, jobs, and earnings in Appalachia, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 98 tracks the ratio of the Region's share of U.S. employment to its share of U.S. earnings over time. The closest the two ever came to matching—to this ratio being equal to 1.0—came in 1979, when the ratio was 0.92. The low came just before the Great Recession, when the ratio was 0.81. The number has increased only slightly over the past ten years, to 0.82 in 2017.

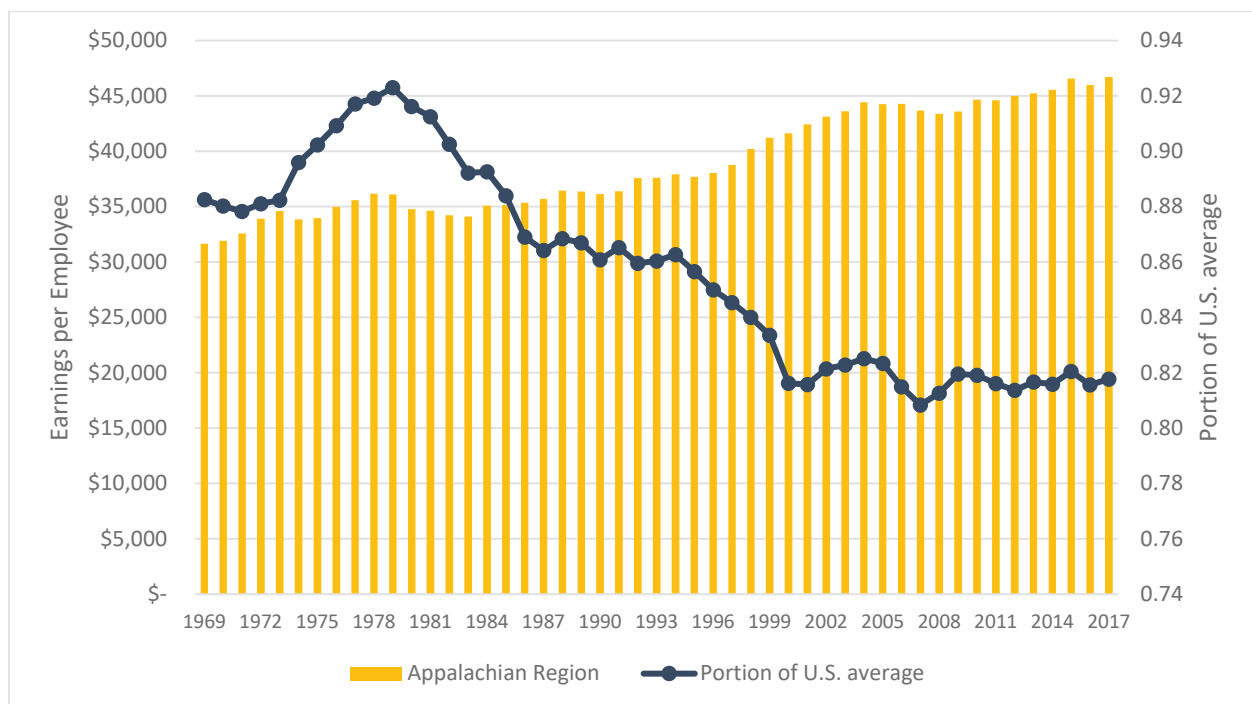
**Figure 98: Ratio of Appalachia's share of U.S. earnings to share of U.S. employment, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

Figure 99 provides another way of looking at the data, as it charts earnings per employee in Appalachia over time, as well as the portion of the U.S. average these earnings per employee represent.

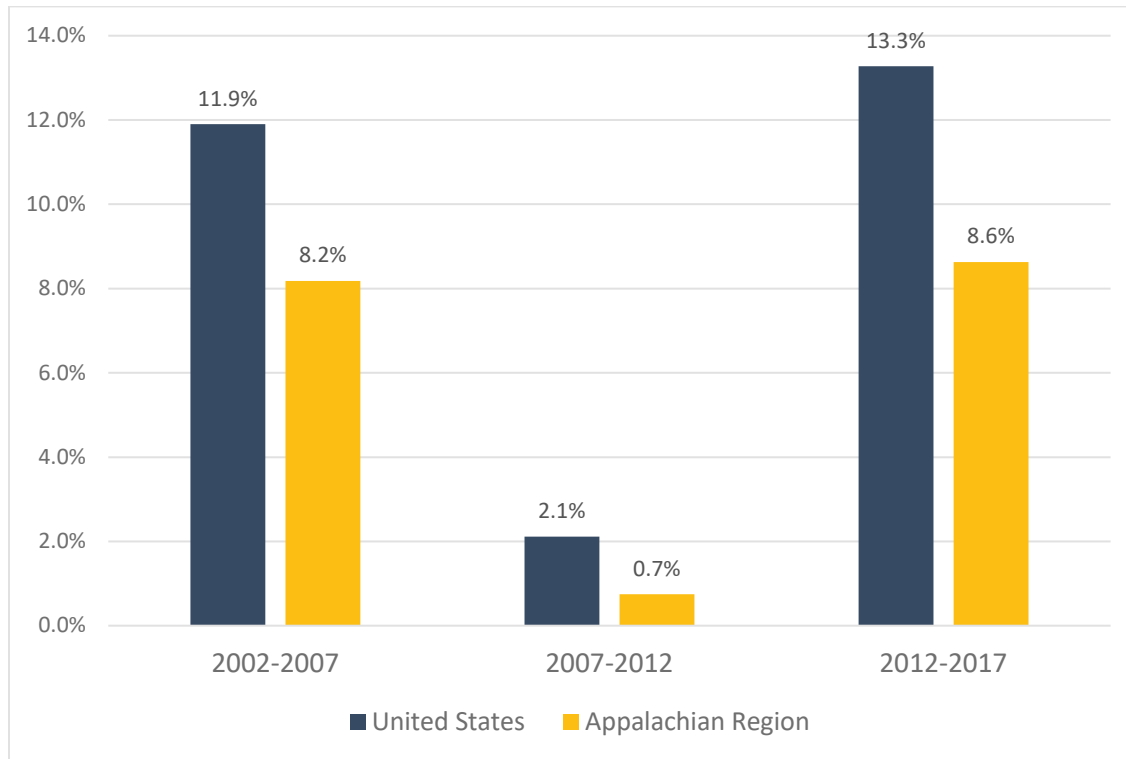
**Figure 99: Earnings per employee in Appalachia, all industries, 1969–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

In Figure 100, we see that the Region's growth in overall earnings has lagged behind the growth experienced by the United States as a whole since 2002. In the most recent five-year period considered, 2012–2017, overall earnings across all industries grew at 8.6 percent in Appalachia, compared to 13.3 percent in the country overall.

**Figure 100: Earnings growth, all industries, 2002–2007, 2007–2012, and 2012–2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Earnings by Industry

Table 45 provides a breakdown of earnings by industry in Appalachia compared to those in the United States as a whole. Differences between the Region and country overall are most noticeable when we consider the earnings of the following three sectors: Manufacturing (13.6 percent in Appalachia, 9.2 percent in the U.S.); Professional and Technical Services (11.1 percent, compared to 15.6 percent); and Finance, Insurance, and Real Estate (6.3 percent, compared to 10.6 percent).

**Table 45: Earnings per industry and industrial shares, 2017**

Earnings (millions) and Industrial Shares, 2017	Appalachian Region		United States	
	<i>Earnings</i>	<i>Ind. Share</i>	<i>Earnings</i>	<i>Ind. Share</i>
State and Local Government	86,473	13.8	1,366,996	12.2
Manufacturing	85,318	13.6	1,030,856	9.2
Health, Social Services	84,064	13.4	1,250,695	11.2
Wholesale Trade, Transportation	70,552	11.3	1,186,708	10.6
Professional, Technical Services	69,790	11.1	1,747,792	15.6
Construction	41,693	6.7	689,088	6.1
Finance, Insurance, Real Estate	39,233	6.3	1,184,552	10.6
Education, Information Services	34,379	5.5	666,332	5.9
Retail Trade	26,730	4.3	432,070	3.9
Food, Lodging, Entertainment	26,420	4.2	530,302	4.7
Personal and Other Services	25,510	4.1	406,055	3.6
Federal Government, Military	19,005	3.0	439,391	3.9
Coal, Gas, Other Mining	6,837	1.1	101,996	0.9
Utilities	6,235	1.0	83,577	0.7
Farming, Forestry	4,459	0.7	99,839	0.9
<i>Total Earnings</i>	<i>626,698</i>	<i>100</i>	<i>11,200,000</i>	<i>100</i>

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

For most industries, earnings shares come relatively close to matching employment shares—though the spreads between the two are worth consideration. In Table 46, we see these differences in earnings and employment shares over time in Appalachia. For example, in 2017, we see that Manufacturing accounted for 13.6 percent of the Region’s earnings, but just 10 percent of its employment. On the other end of the spectrum, the Retail Trade had 4.3 percent of earnings and 11.1 percent of employment.

**Table 46: Shares of total earnings and employment (%) by industry in Appalachia, 2002, 2007, 2012, 2017**

	2002		2007		2012		2017	
	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>	<i>Earn.</i>	<i>Emp.</i>
State and Local Government	13.9	11.7	14.3	11.5	14.1	11.7	13.8	11.1
Health, Social Services	11.1	9.9	12.0	10.6	13.2	11.6	13.4	11.6
Manufacturing	18.2	13.8	16.0	11.5	13.5	9.9	13.6	10.0
Wholesale Trade, Transportation	12.8	6.5	12.3	6.6	11.6	6.4	11.3	6.5
Professional, Technical Services	8.6	9.9	9.3	11.1	10.3	11.8	11.1	12.1
Construction	6.7	6.3	7.0	6.8	6.5	5.6	6.7	5.8
Finance, Insurance, Real Estate	6.7	6.1	6.5	6.9	6.4	7.5	6.3	7.8
Education, Information Services	4.4	3.3	5.0	3.2	5.6	3.3	5.5	3.2
Retail Trade	3.7	12.3	3.7	11.8	3.7	11.4	4.3	11.1
Food, Lodging, Entertainment	3.5	7.9	3.5	8.3	3.9	8.7	4.2	9.2
Personal and Other Services	4.3	6.0	4.1	5.8	4.1	6.0	4.1	5.9
Federal Government, Military	3.0	2.1	3.2	1.9	3.3	2.0	3.0	1.8
Coal, Gas, Other Mining	1.2	0.8	1.5	0.9	1.9	1.3	1.1	1.0
Utilities	1.1	0.5	1.0	0.4	1.0	0.4	1.0	0.4
Farming, Forestry	0.7	2.9	0.7	2.6	0.8	2.5	0.7	2.4

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



Table 47 shows us how earnings per employee compare between Appalachia and the United States as a whole. Overall, we see that the average Appalachian worker makes 82 percent of the national average. Education and Information Services (97 percent of the U.S. figure) was the industry in which earnings per employee in Appalachia came closest to matching the national average. For both Wholesale Trade and Transportation and Health and Social Services, earnings per employee in the Region were 96 percent of the national level.

Meanwhile, employees in the Farming and Forestry industry throughout the Region earned just 49 percent of the national average in 2017, and the Finance, Insurance, and Real Estate (62 percent) and Professional and Technical Services (70 percent) industries also saw large discrepancies between Regional and national earnings per employee.

**Table 47: Earnings per employee in Appalachia and the United States, 2017**

Earnings per Employee, 2017	Appalachian Region	United States	Appalachia as a % of U.S.
<b>All Industries</b>	<b>\$46,697</b>	<b>\$57,187</b>	<b>82%</b>
Utilities	\$109,314	\$125,893	87%
Wholesale Trade, Transportation	\$80,686	\$83,878	96%
Education, Information Services	\$79,670	\$82,520	97%
Federal Government, Military	\$78,938	\$91,808	86%
Manufacturing	\$63,583	\$77,469	82%
State and Local Government	\$58,113	\$69,677	83%
Health, Social Services	\$53,807	\$56,340	96%
Construction	\$53,773	\$64,788	83%
Coal, Gas, Other Mining	\$48,966	\$67,769	72%
Professional, Technical Services	\$43,107	\$61,372	70%
Finance, Insurance, Real Estate	\$37,716	\$60,386	62%
Personal and Other Services	\$32,180	\$36,353	89%
Food, Lodging, Entertainment	\$21,308	\$27,685	77%
Retail Trade	\$17,906	\$22,477	80%
Farming, Forestry	\$13,726	\$28,111	49%

Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Closing Remarks

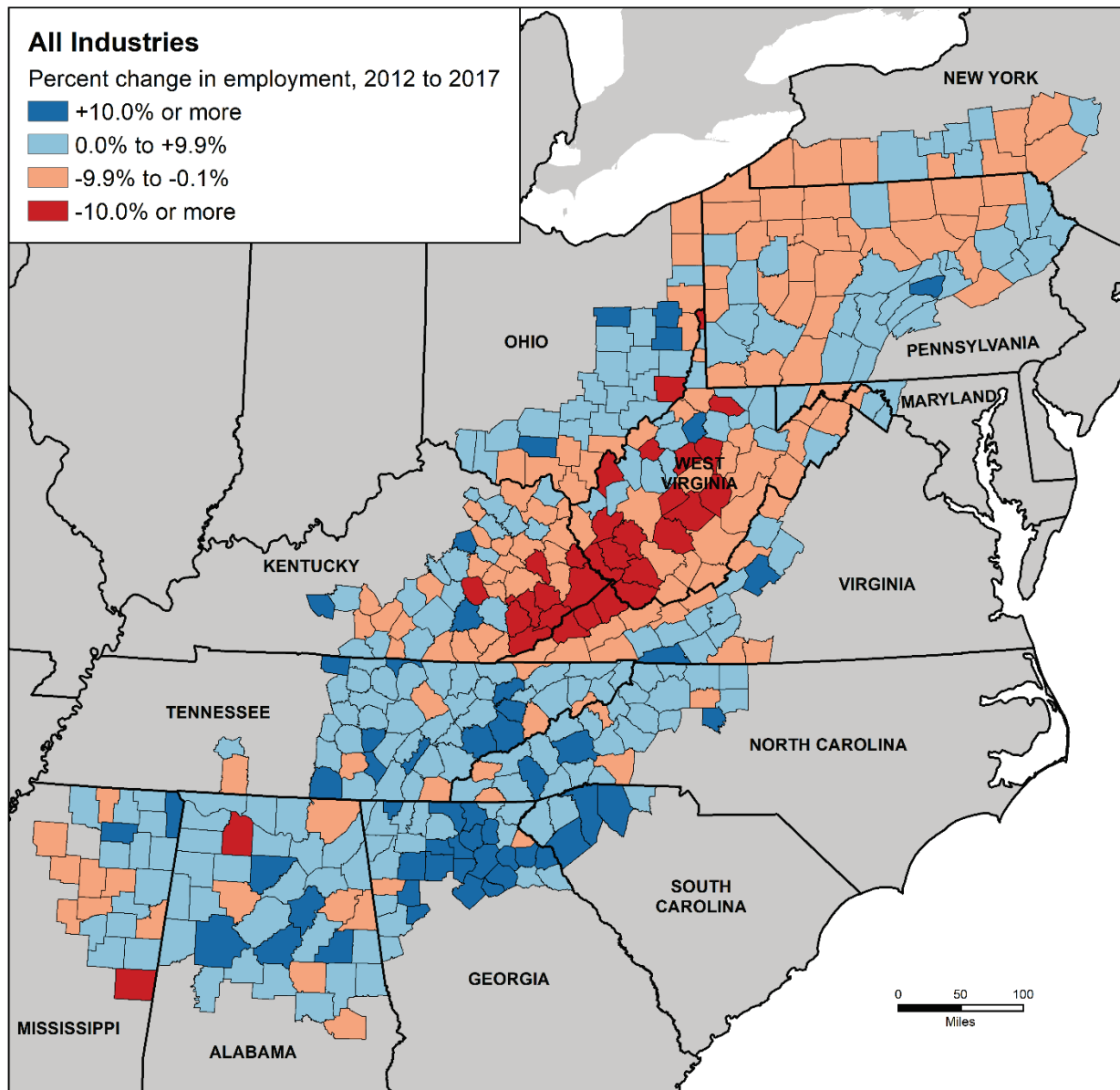
By providing a quantitative overview of employment throughout the Region—one that relies on data as opposed to anecdotal evidence—it is hoped that this report will serve as a useful resource for anyone interested in the industrial make-up of Appalachia: researchers, policymakers, economic development professionals, and community leaders. We are now able to see where and to what degree certain industries are concentrated throughout the Region. Industrial shares and earnings per employee, two of the key measures featured throughout this report, provide meaningful starting points for anyone who wants to consider the socioeconomic profile of any subregion, state, or county within the Region—and even Appalachia itself.

## Appendix A: Employment Change Maps, 2012–2017

County-level maps for each industry's percent change in employment from 2012 to 2017 are featured here, ordered by industrial share in the Region, as shown in Chapter 3.

### All Industries

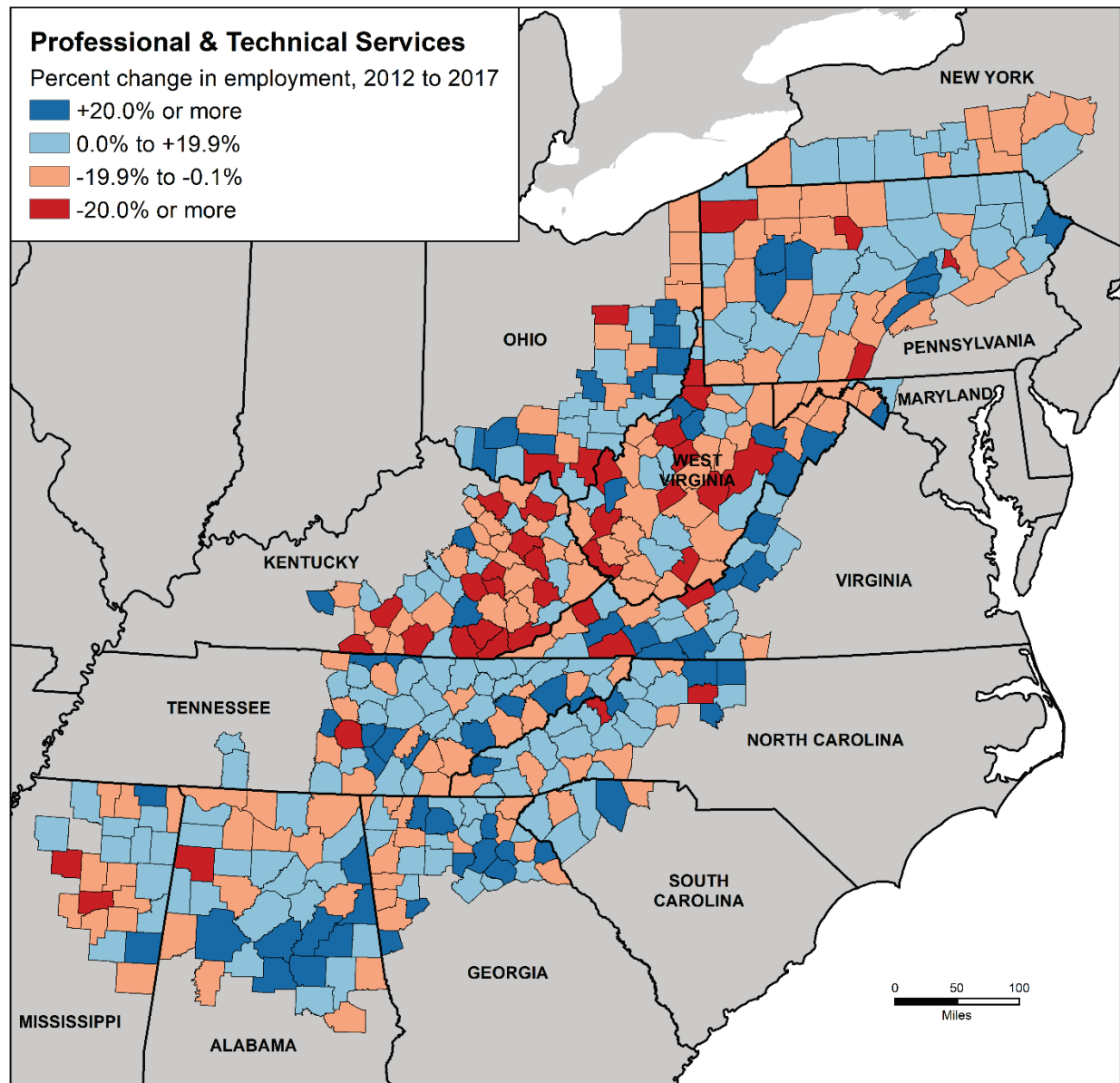
**Figure 101: Percent change in employment, all industries, 2012 to 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Professional and Technical Services

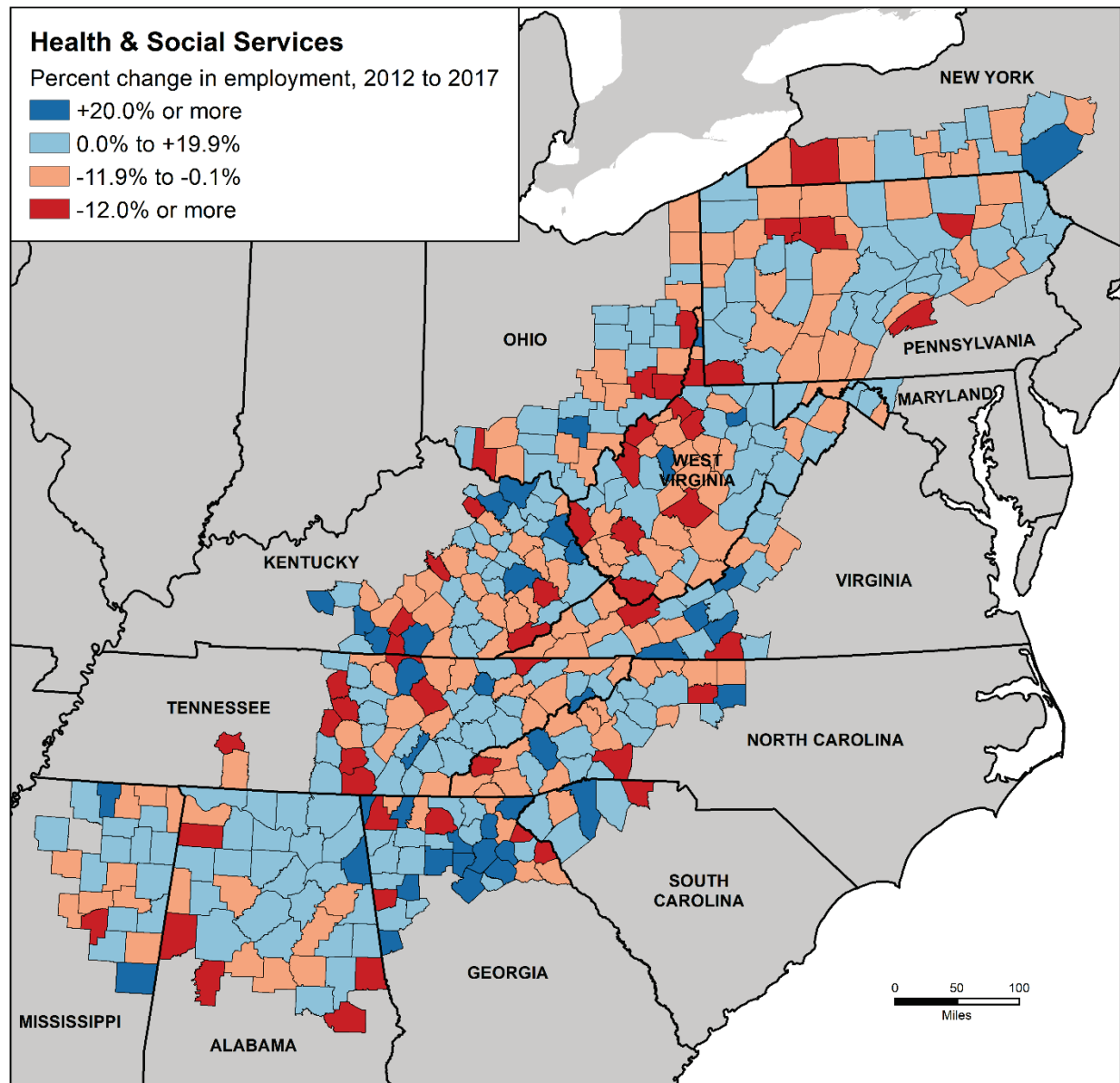
Figure 102: Percent change in employment, Professional and Technical Services, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Health and Social Services

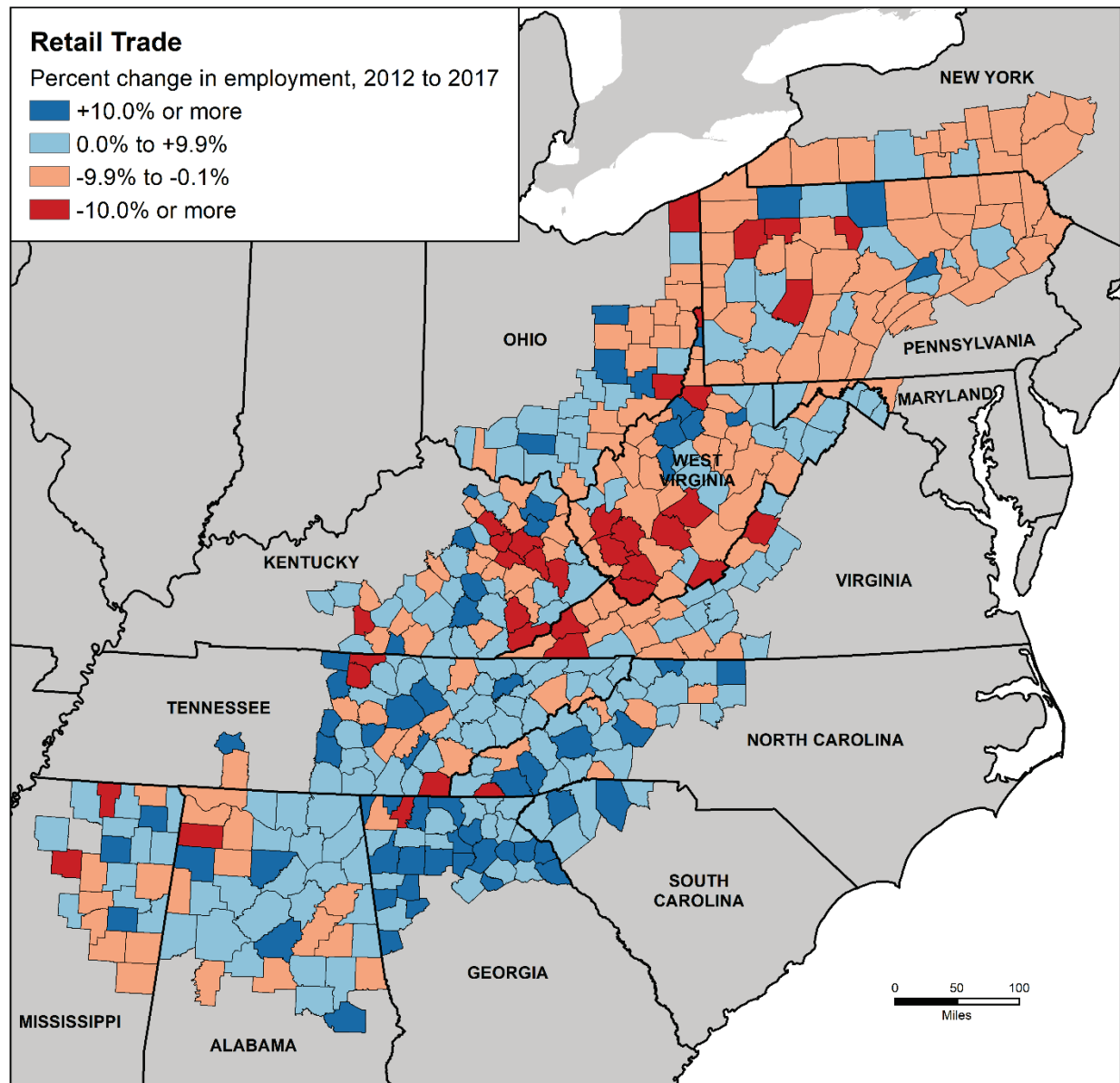
**Figure 103: Percent change in employment, Health and Social Services, 2012 to 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Retail Trade

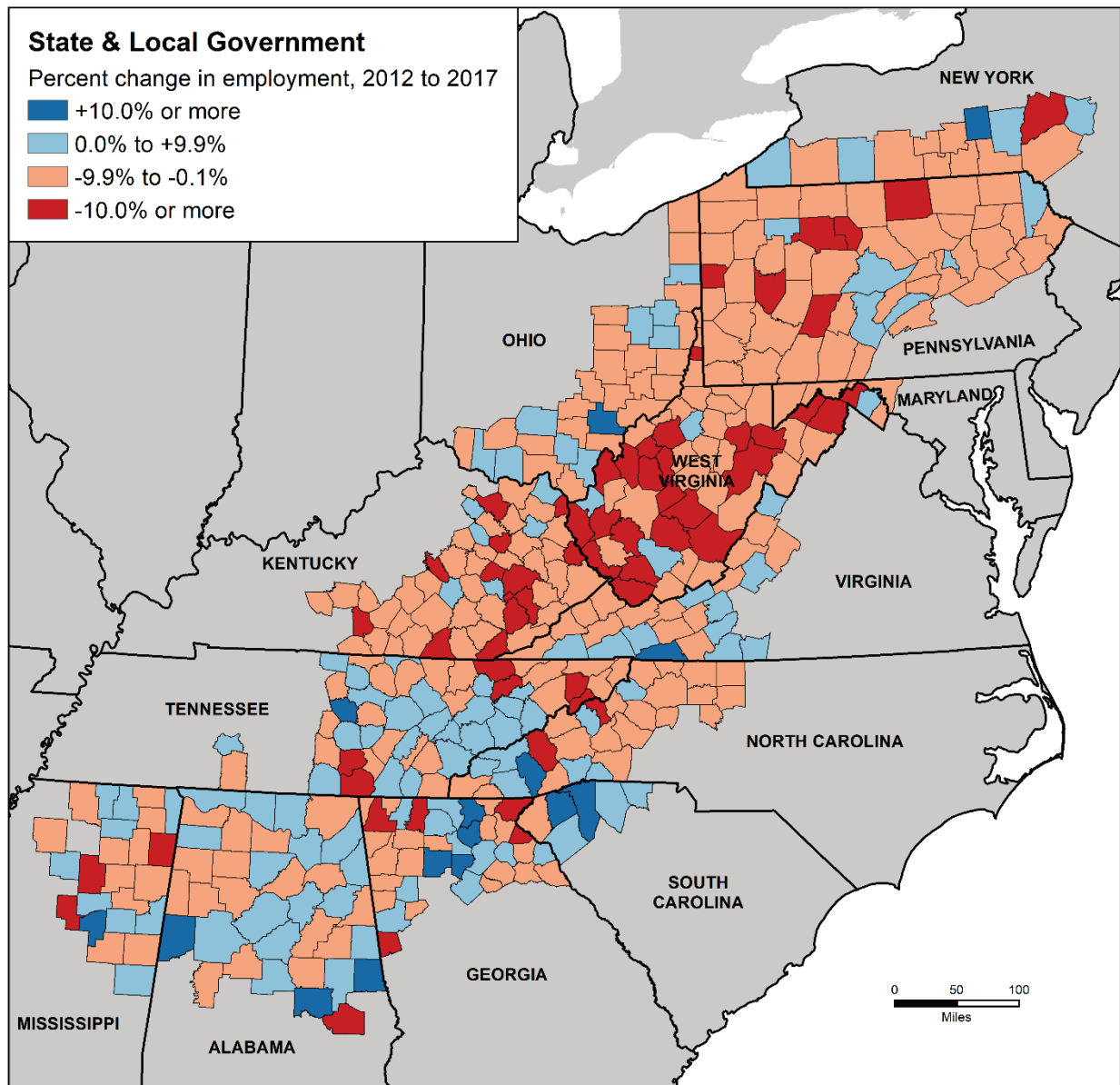
Figure 104: Percent change in employment, Retail Trade, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## State and Local Government

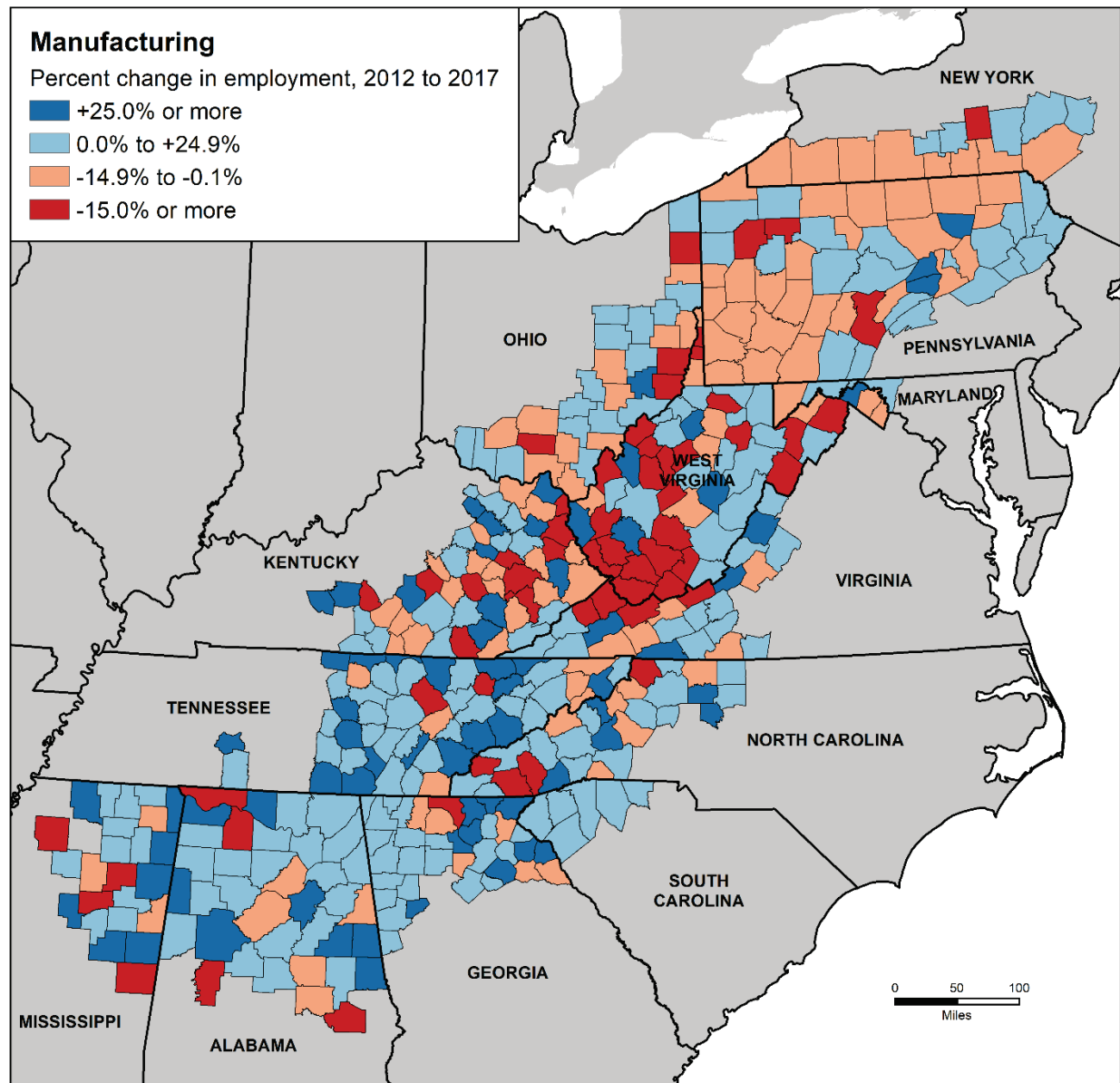
Figure 105: Percent change in employment, State and Local Government, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Manufacturing

Figure 106: Percent change in employment, Manufacturing, 2012 to 2017

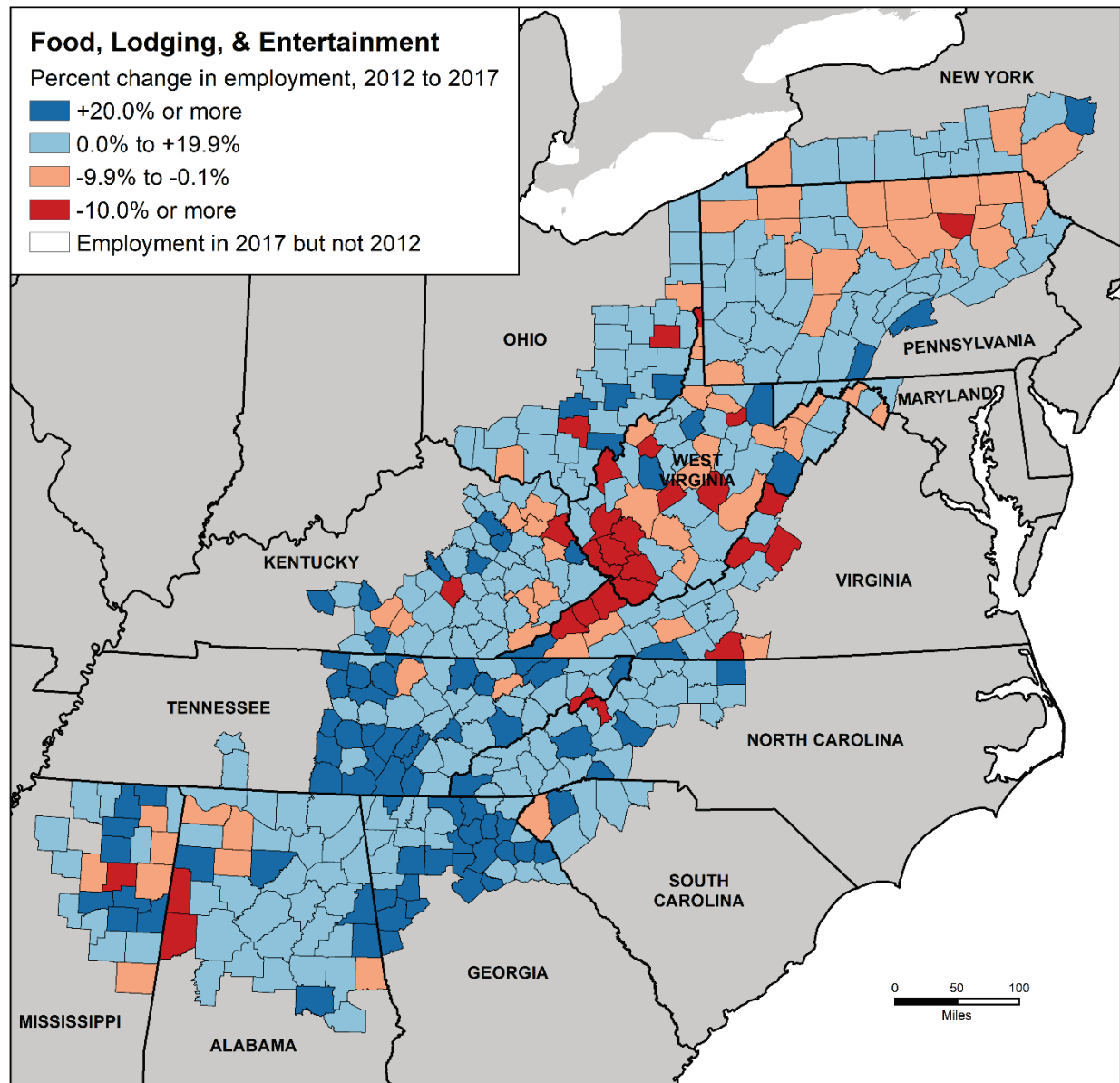


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Food, Lodging, and Entertainment

Figure 107: Percent change in employment, Food, Lodging, and Entertainment, 2012 to 2017

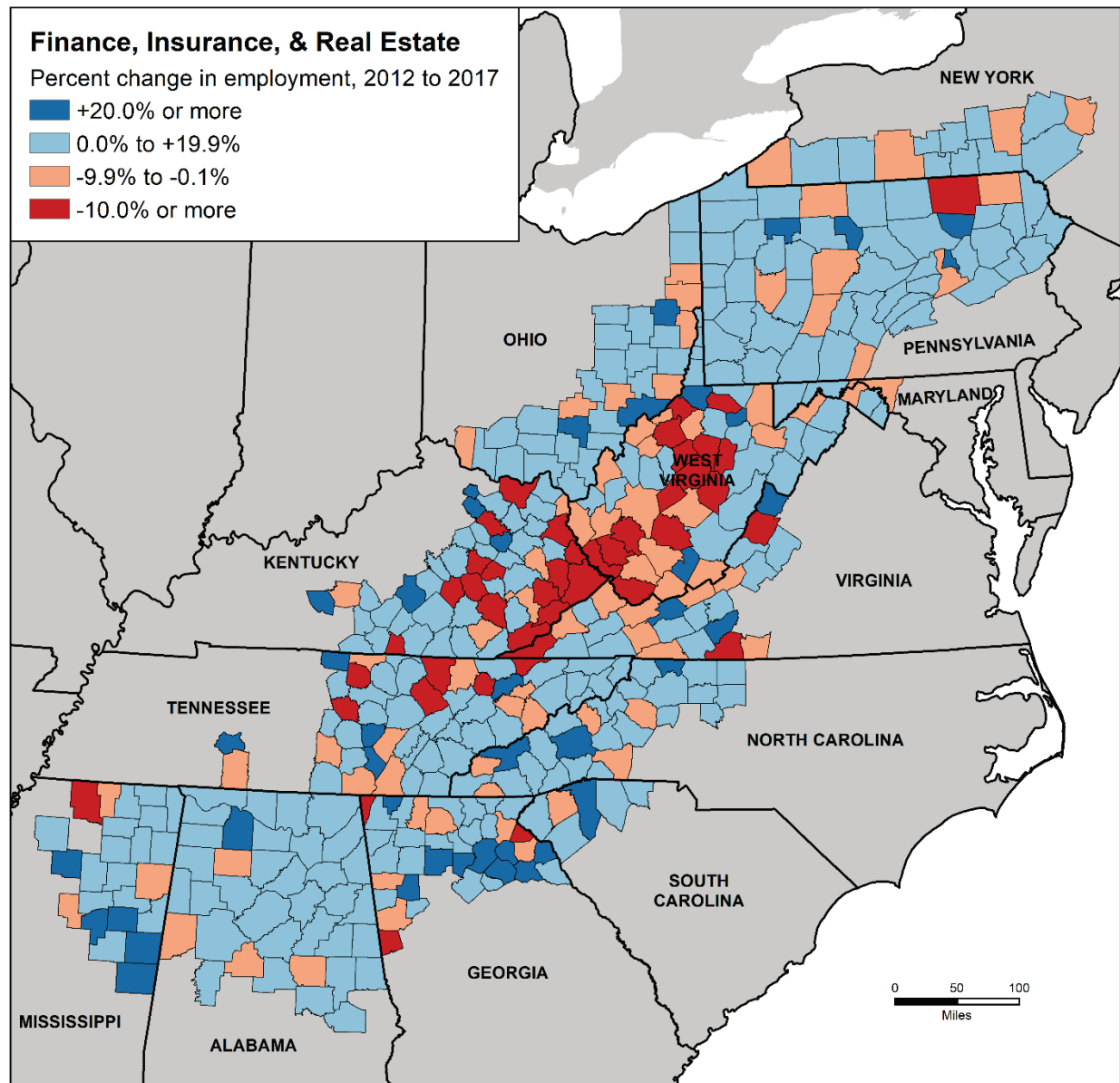


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Finance, Insurance, and Real Estate

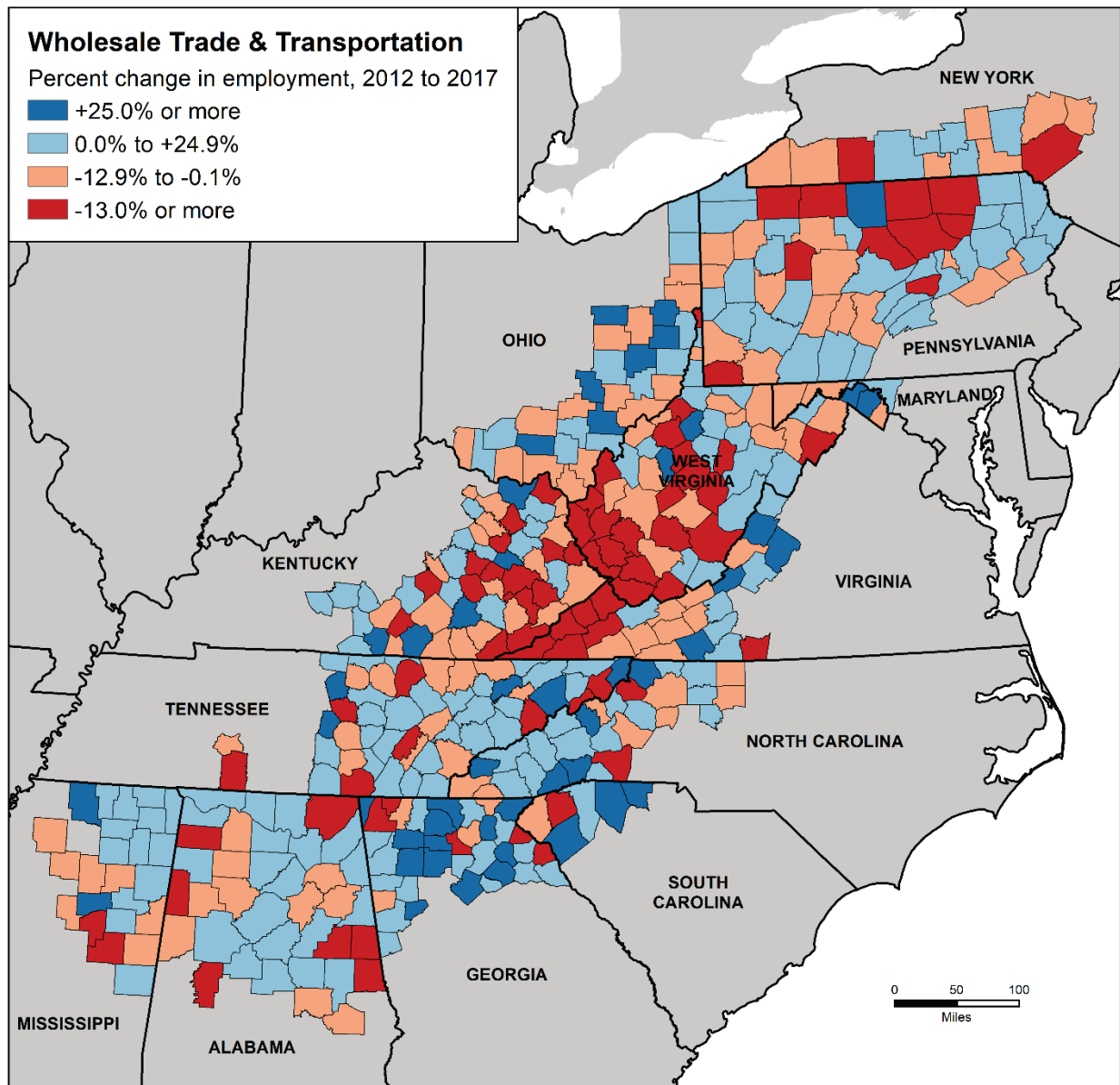
**Figure 108: Percent change in employment, Finance, Insurance, and Real Estate, 2012 to 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Wholesale Trade and Transportation

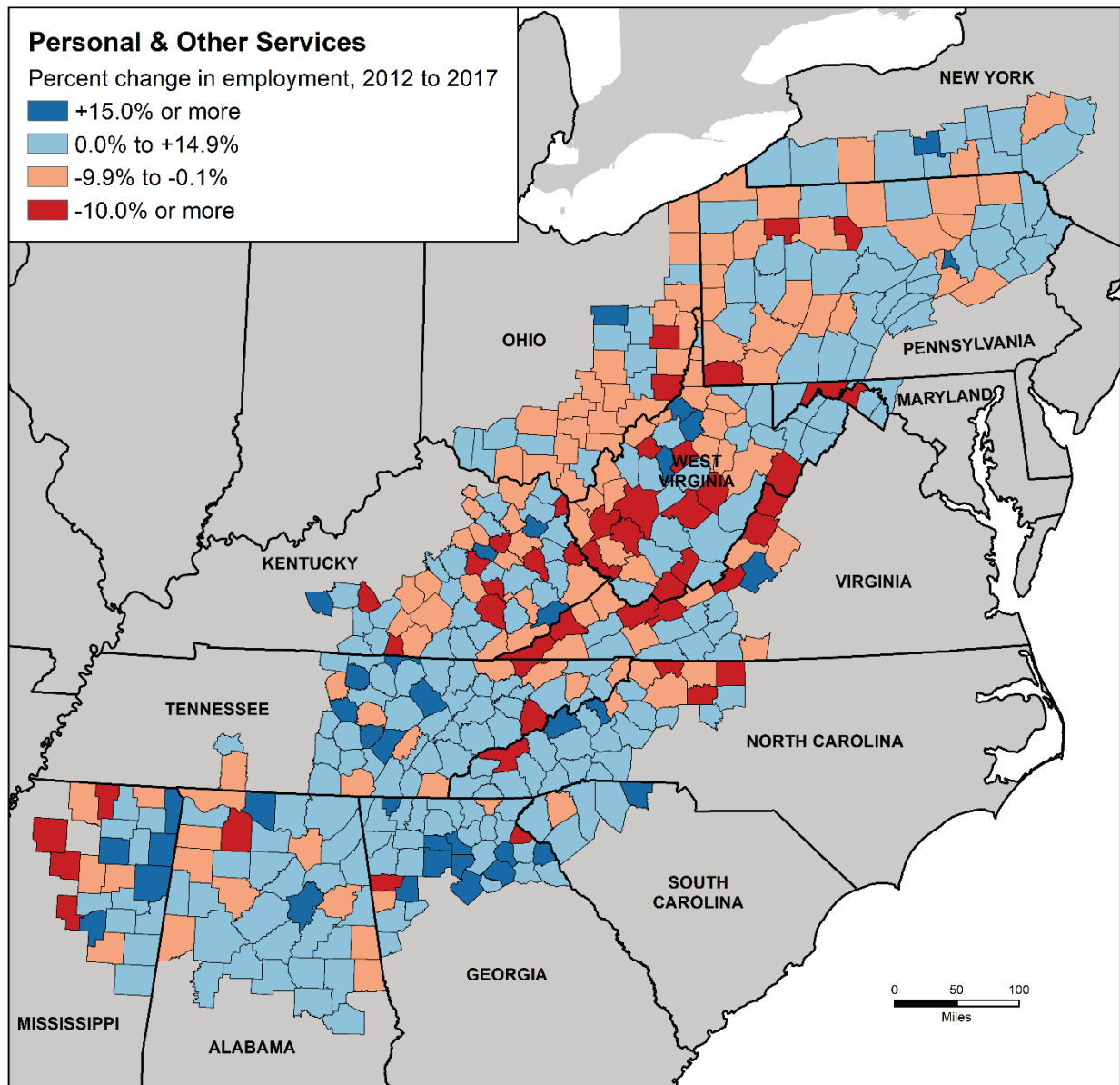
Figure 109: Percent change in employment, Wholesale Trade and Transportation, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Personal and Other Services

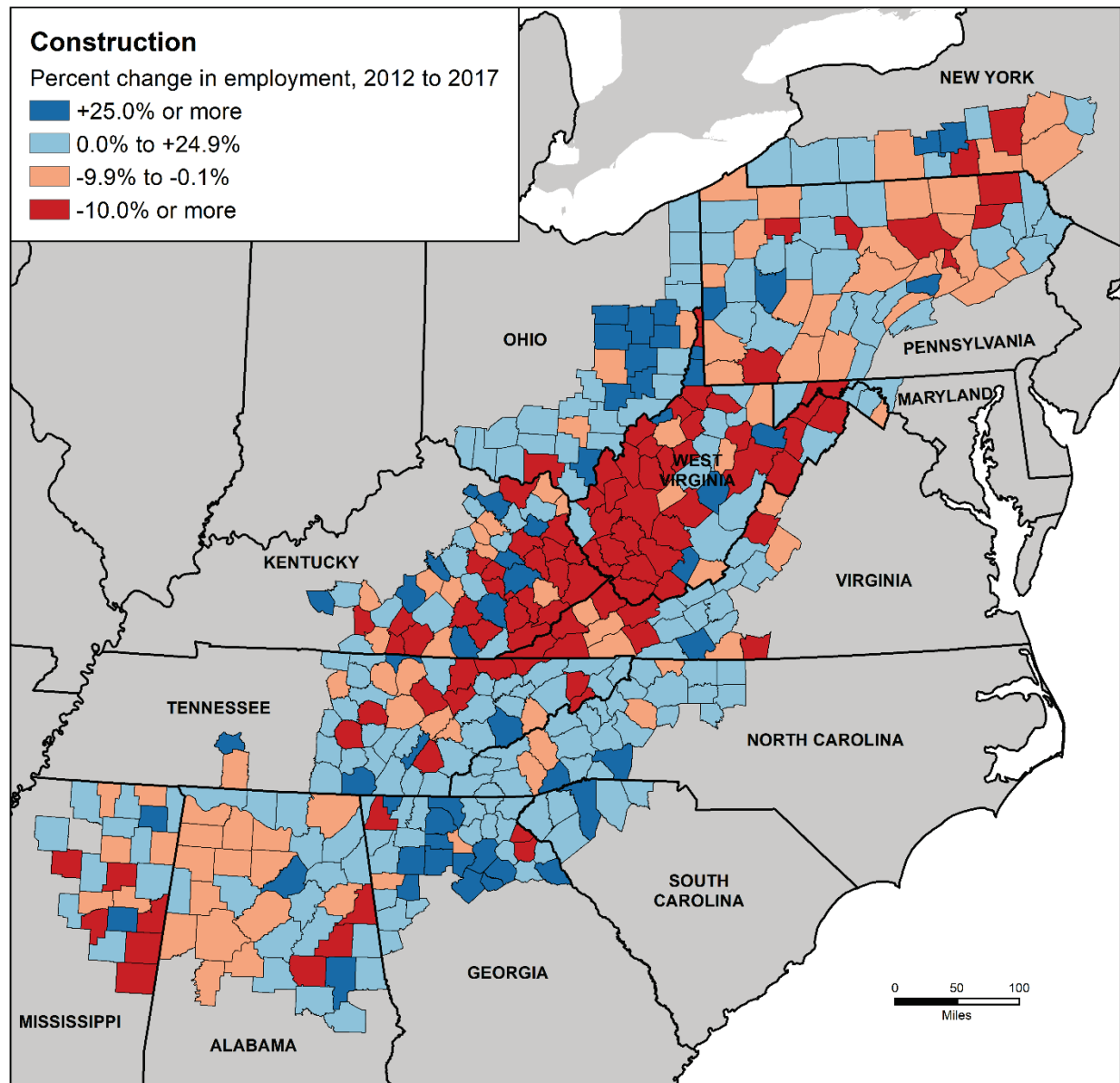
Figure 110: Percent change in employment, Personal and Other Services, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Construction

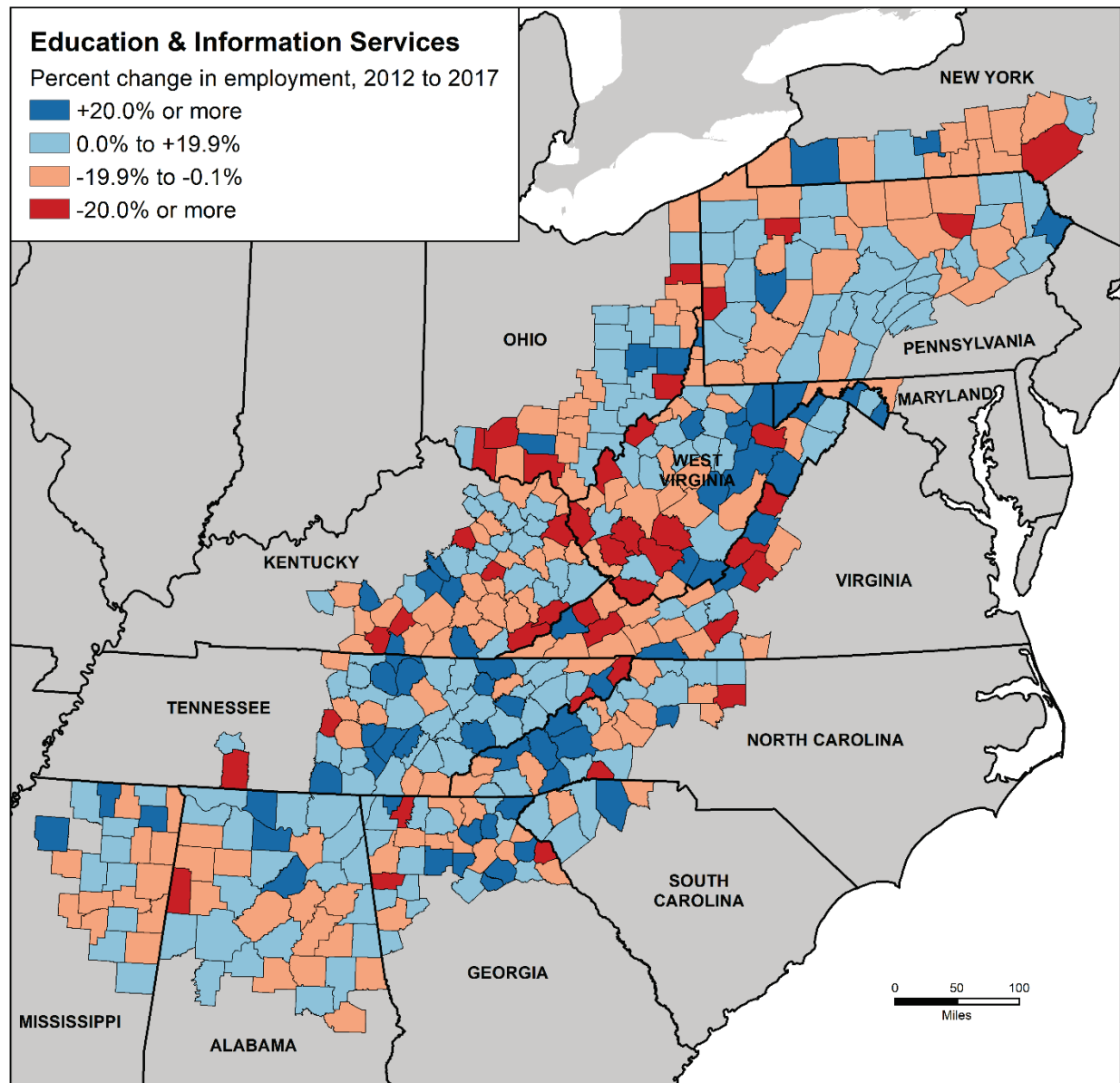
Figure 111: Percent change in employment, Construction, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Education and Information Services

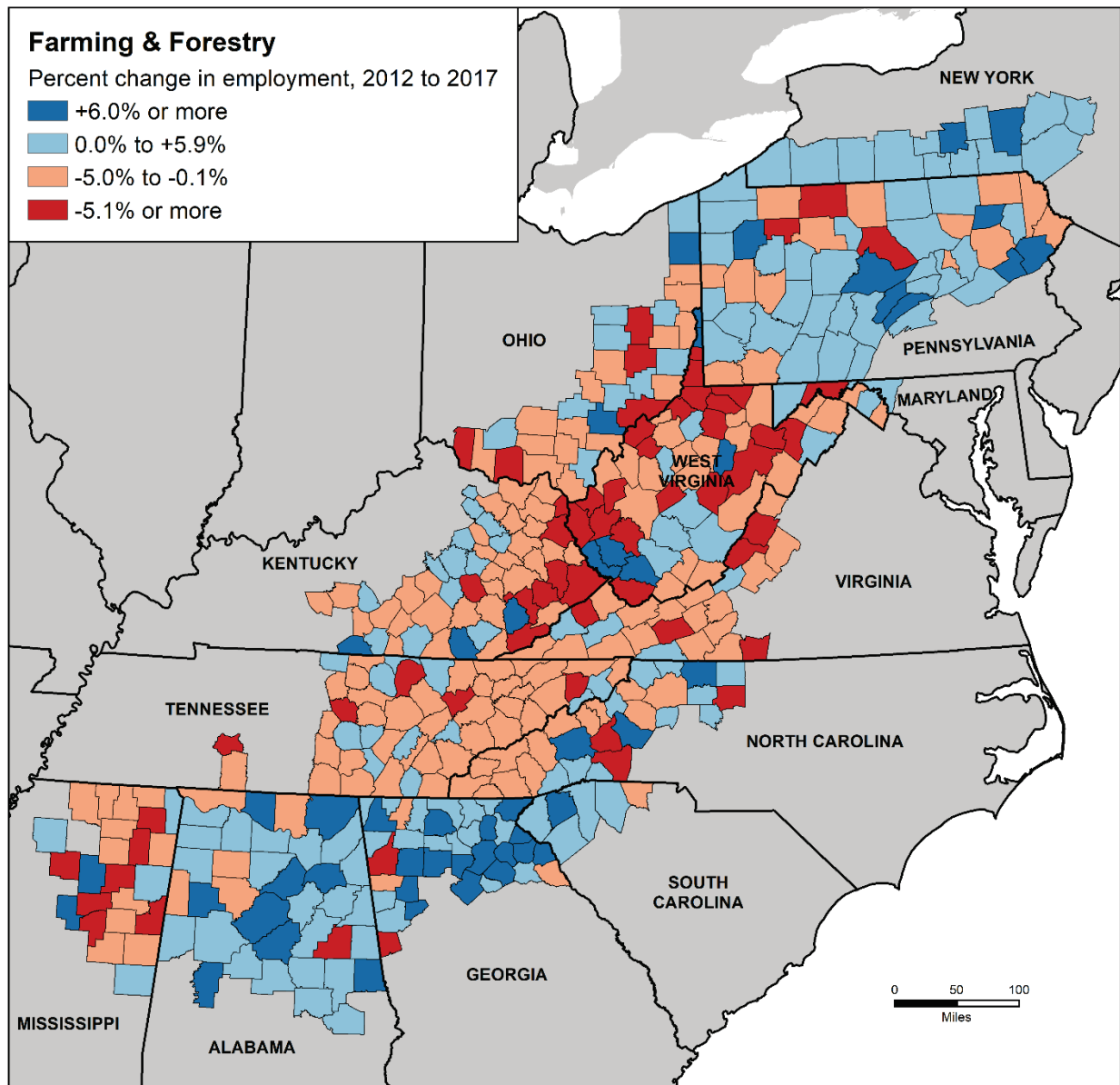
Figure 112: Percent change in employment, Education and Information Services, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Farming and Forestry

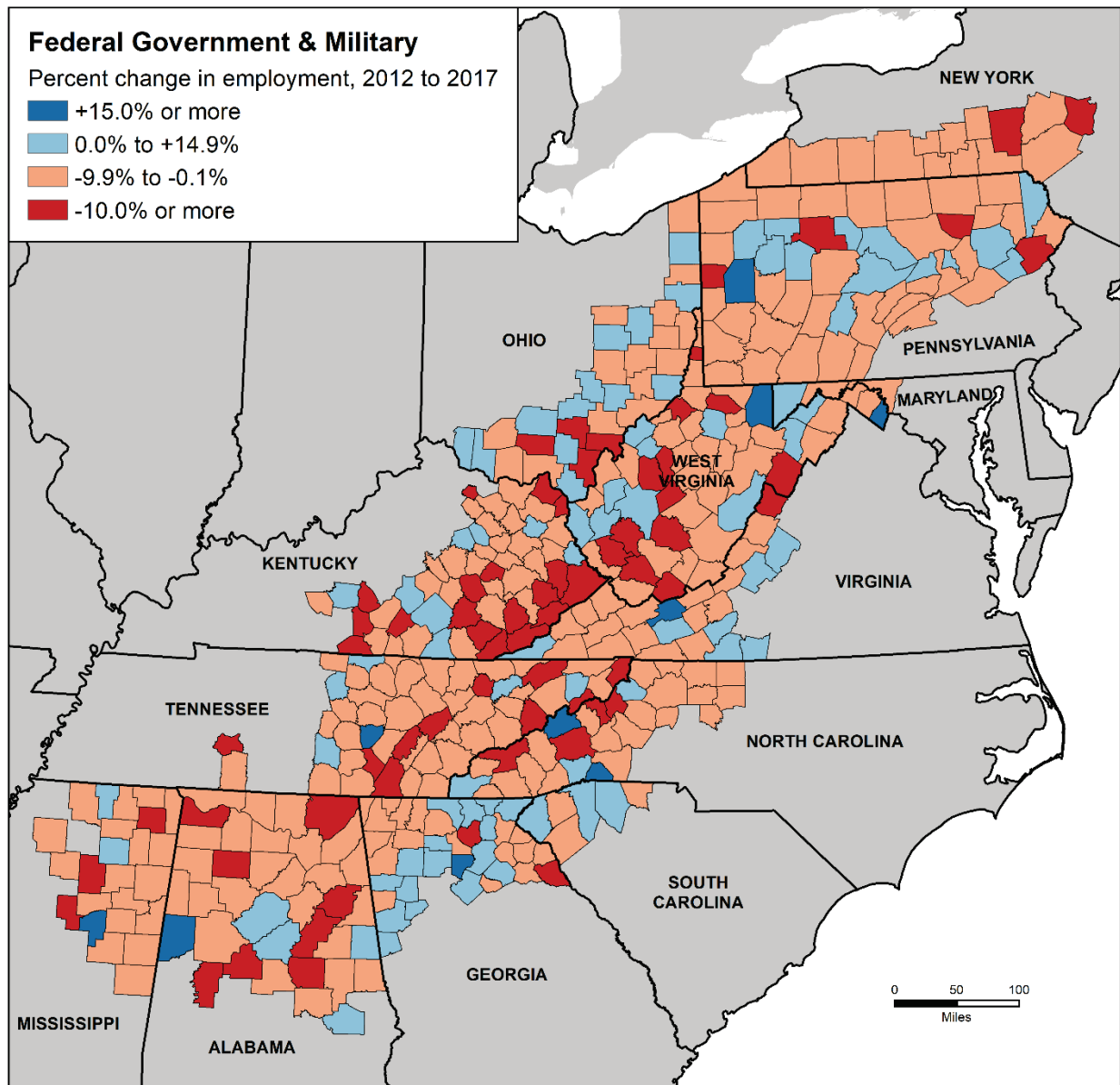
Figure 113: Percent change in employment, Farming and Forestry, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Federal Government and Military

Figure 114: Percent change in employment, Federal Government and Military, 2012 to 2017

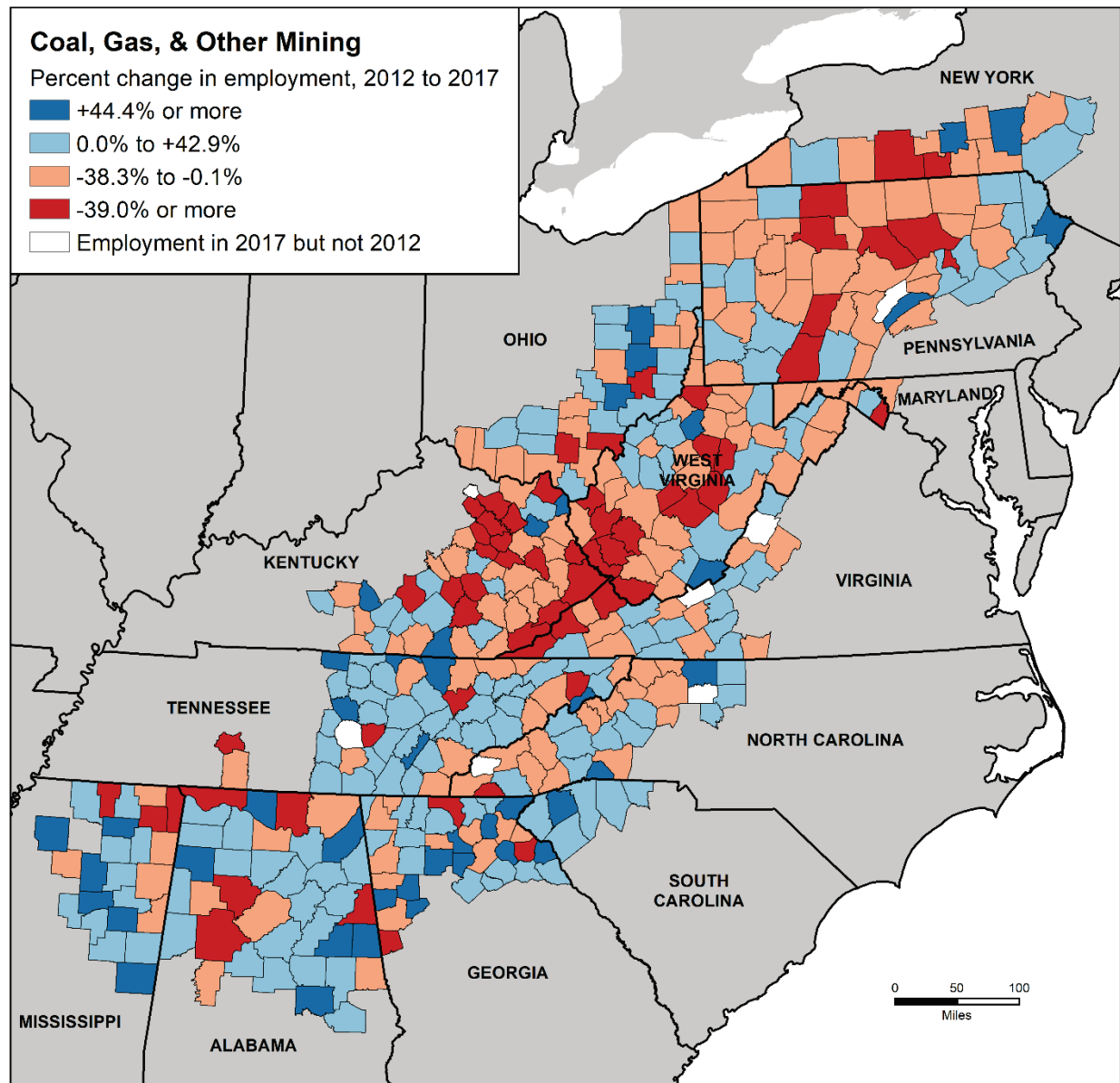


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Coal, Gas, and Other Mining

Figure 115: Percent change in employment, Coal, Gas, and Other Mining, 2012 to 2017

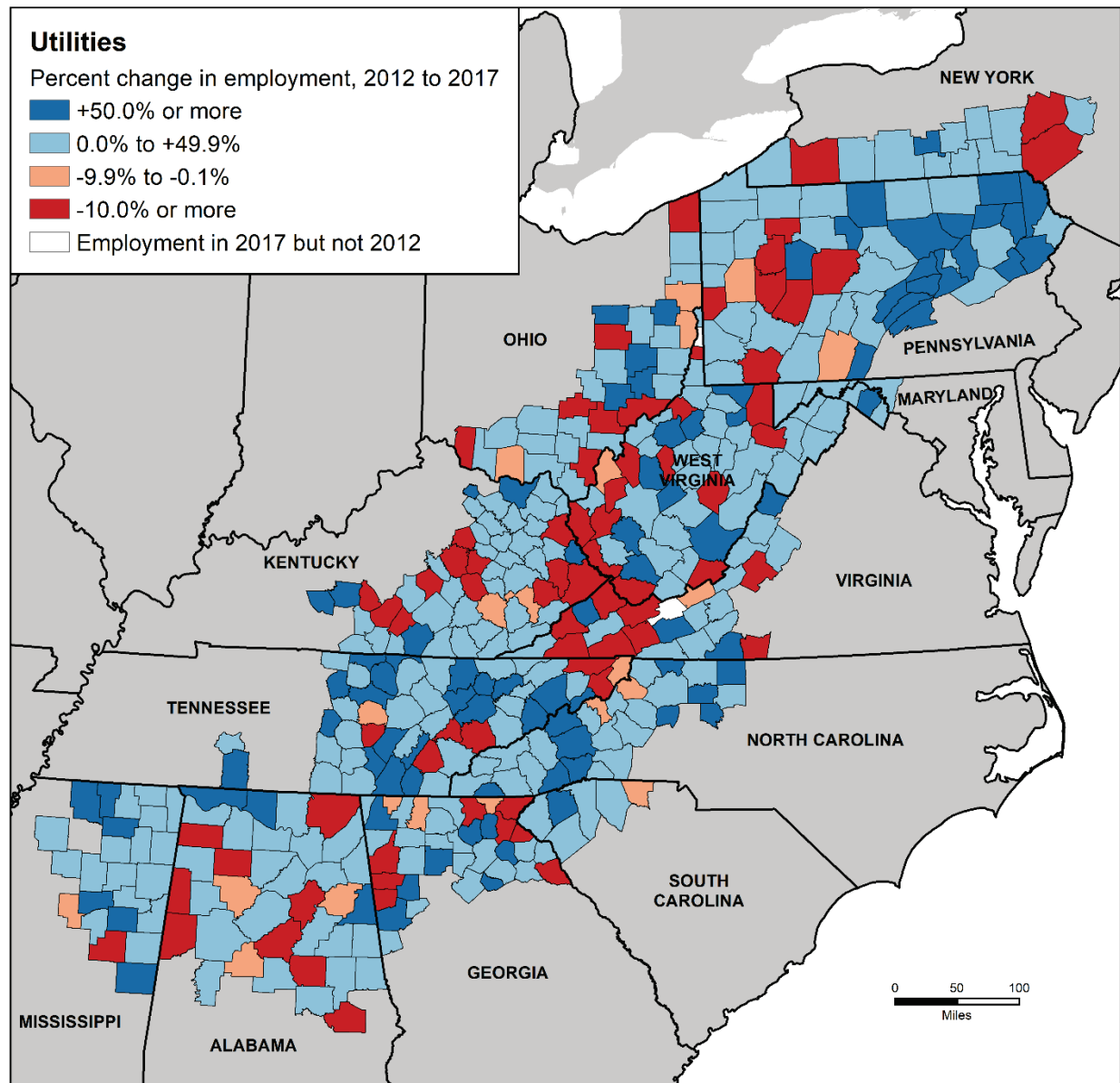


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Utilities

Figure 116: Percent change in employment, Utilities, 2012 to 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Appendix B: Location Quotient Maps, 2017

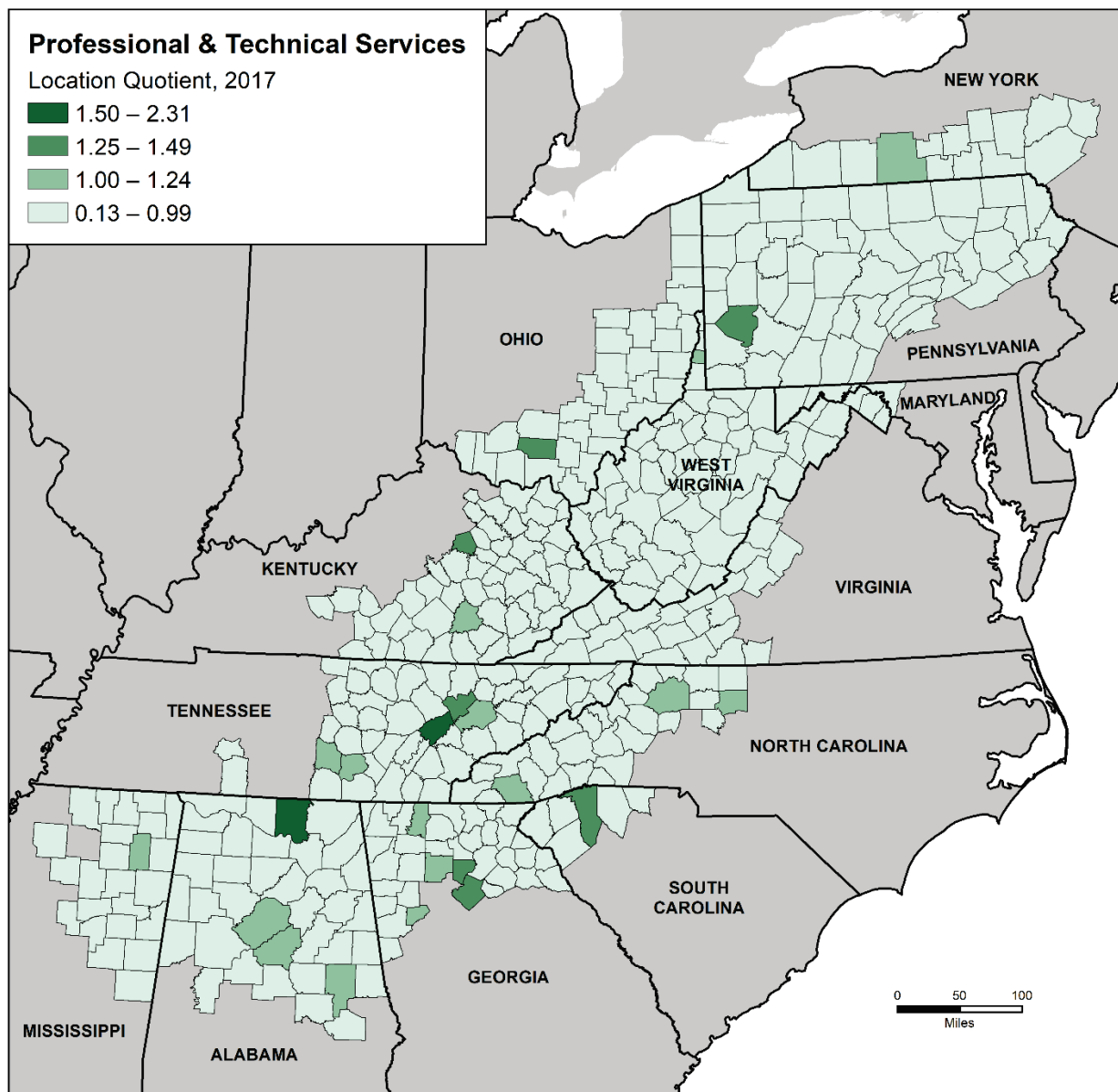
Location quotients allow us to see how concentrated industries are in a particular county compared to the United States as a whole:

$$\text{Industrial share in County} / \text{Industrial share in the United States}$$

A value of 1.0 signifies that a county has the same industrial share as the United States as a whole. A value greater than 1.0 indicates that an industry is more heavily concentrated in the county than in the United States overall, and a value less than 1 indicates that an industry less heavily concentrated.

### Professional and Technical Services

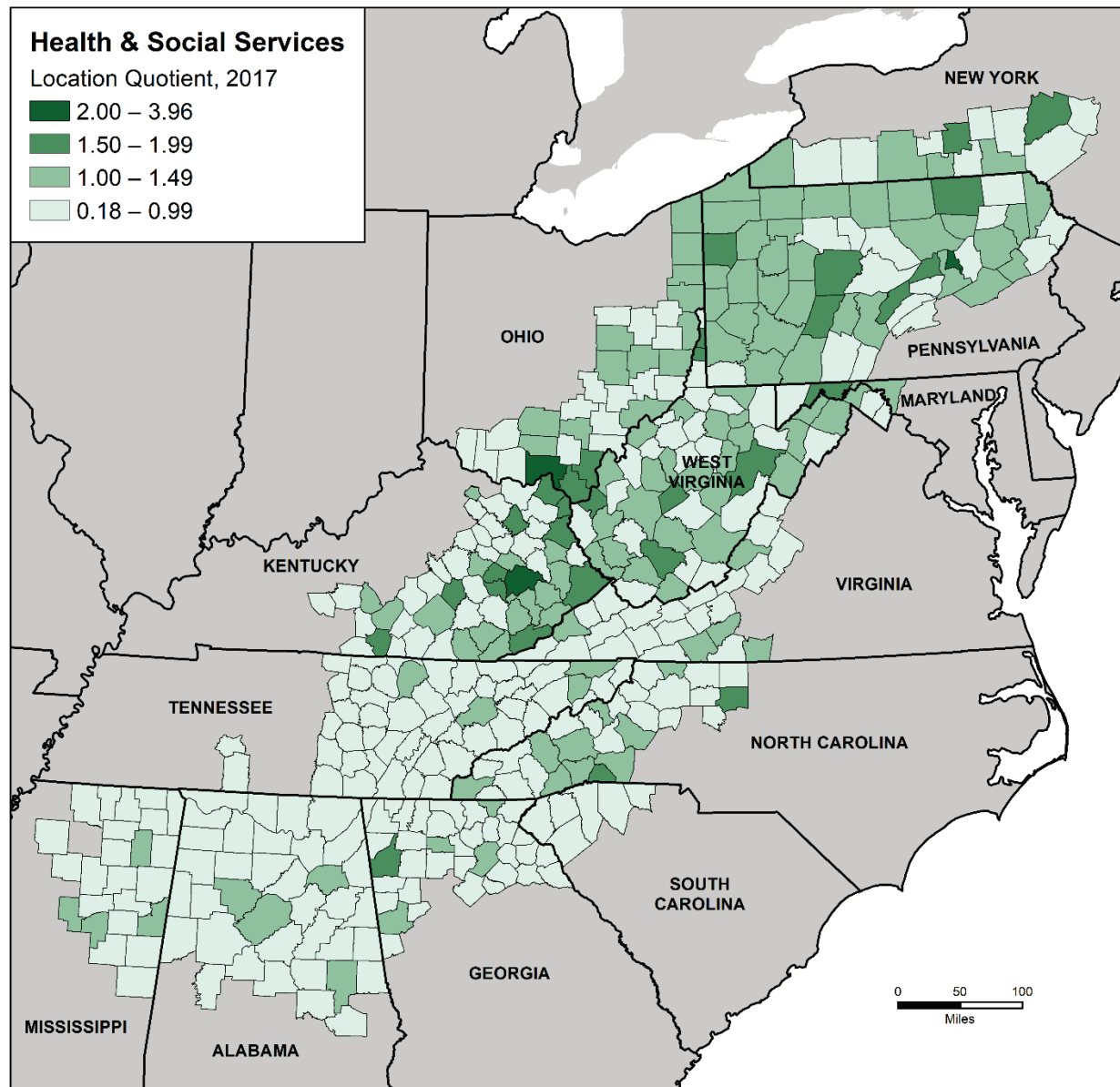
**Figure 117: Location quotient, Professional and Technical Services, 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Health and Social Services

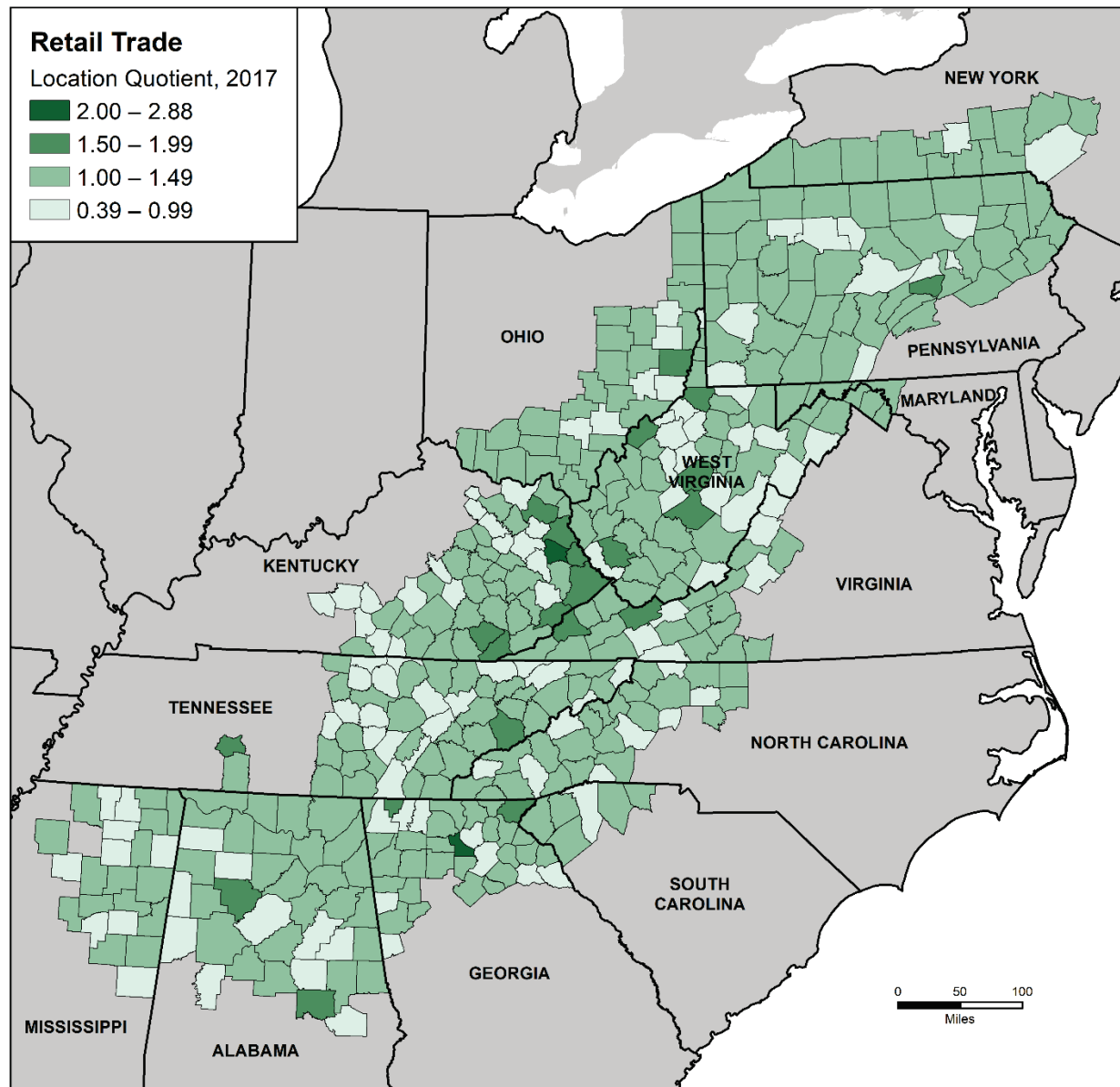
Figure 118: Location quotient, Health and Social Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Retail Trade

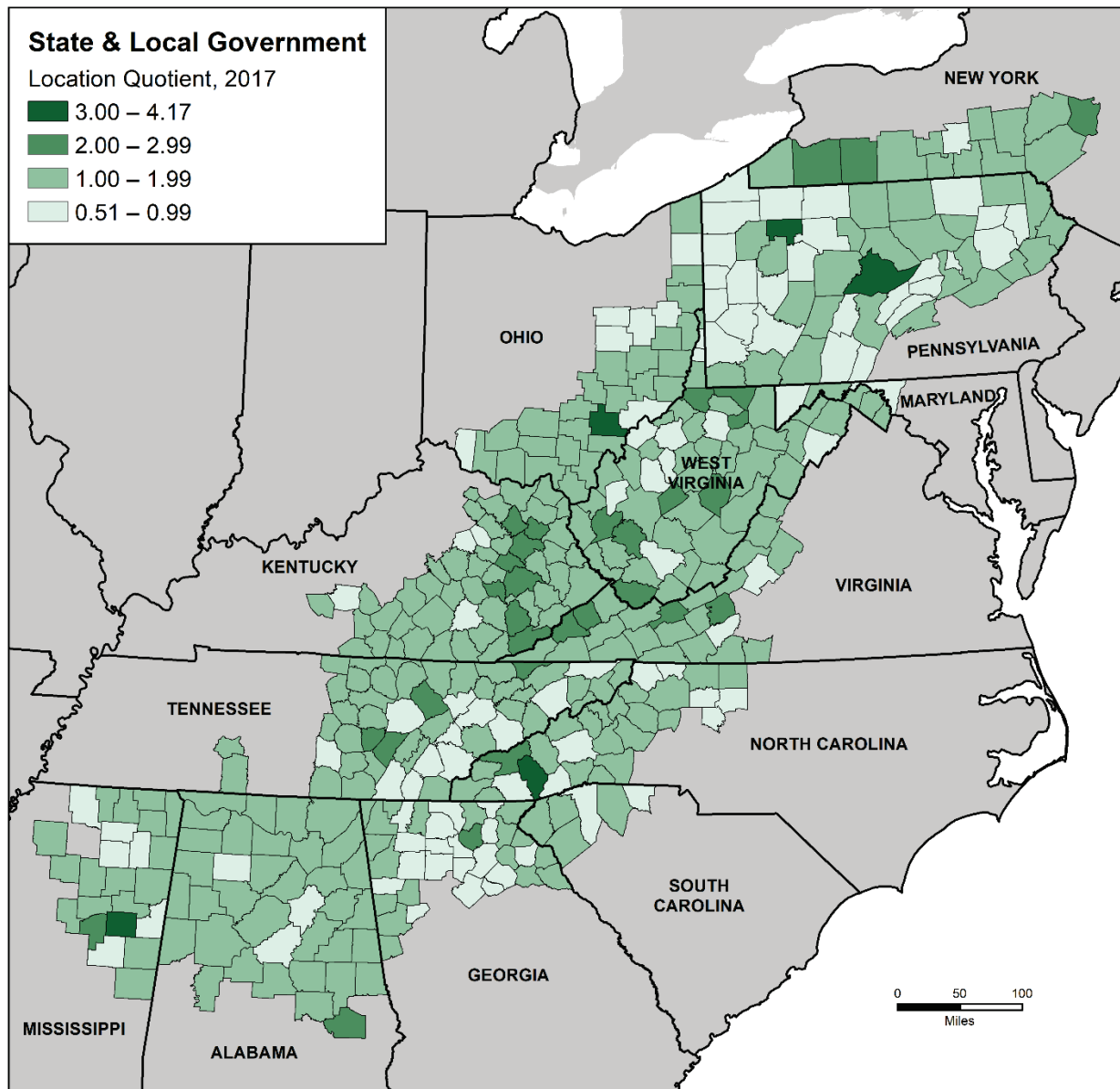
Figure 119: Location quotient, Retail Trade, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## State and Local Government

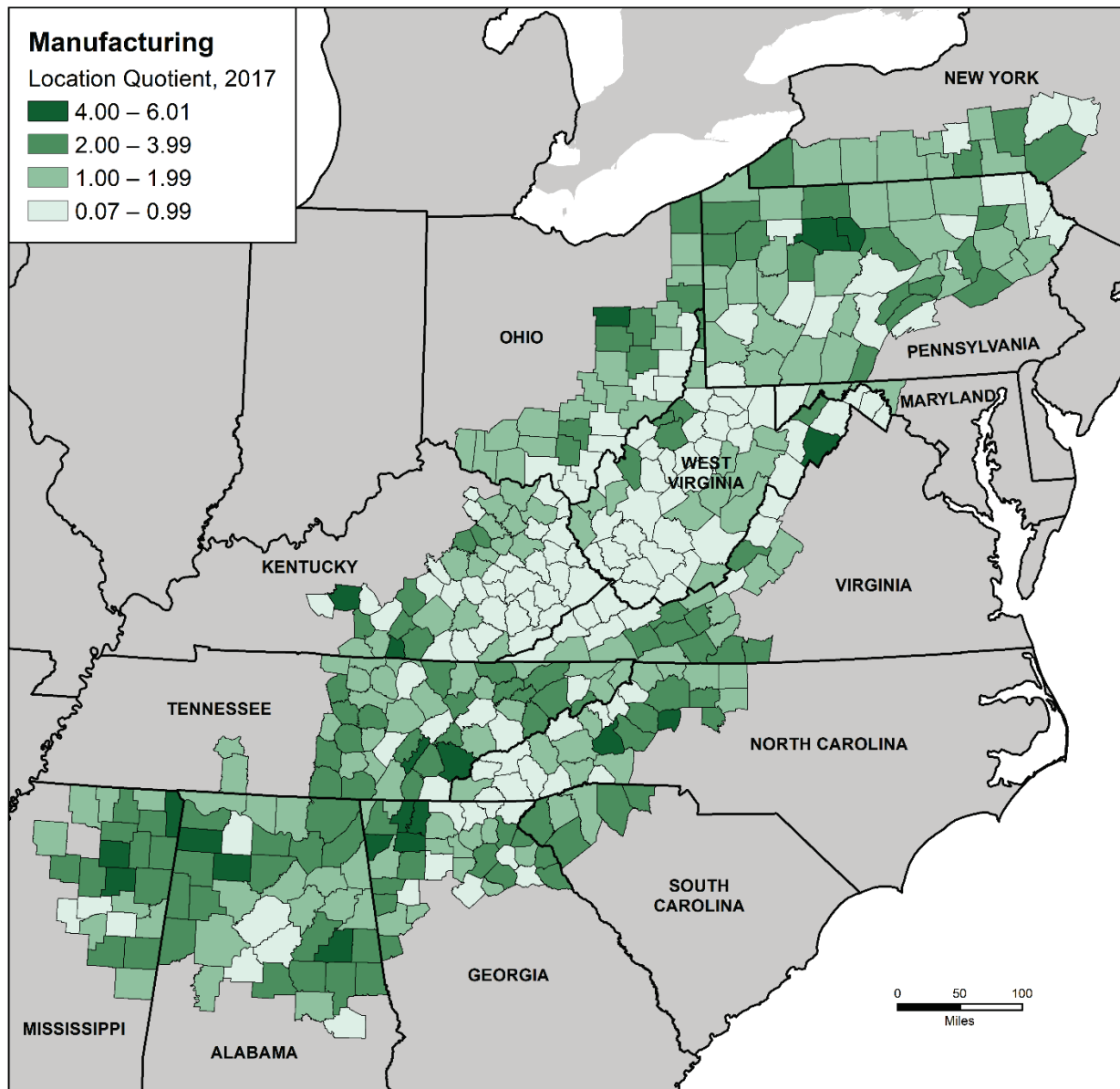
Figure 120: Location quotient, State and Local Government, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Manufacturing

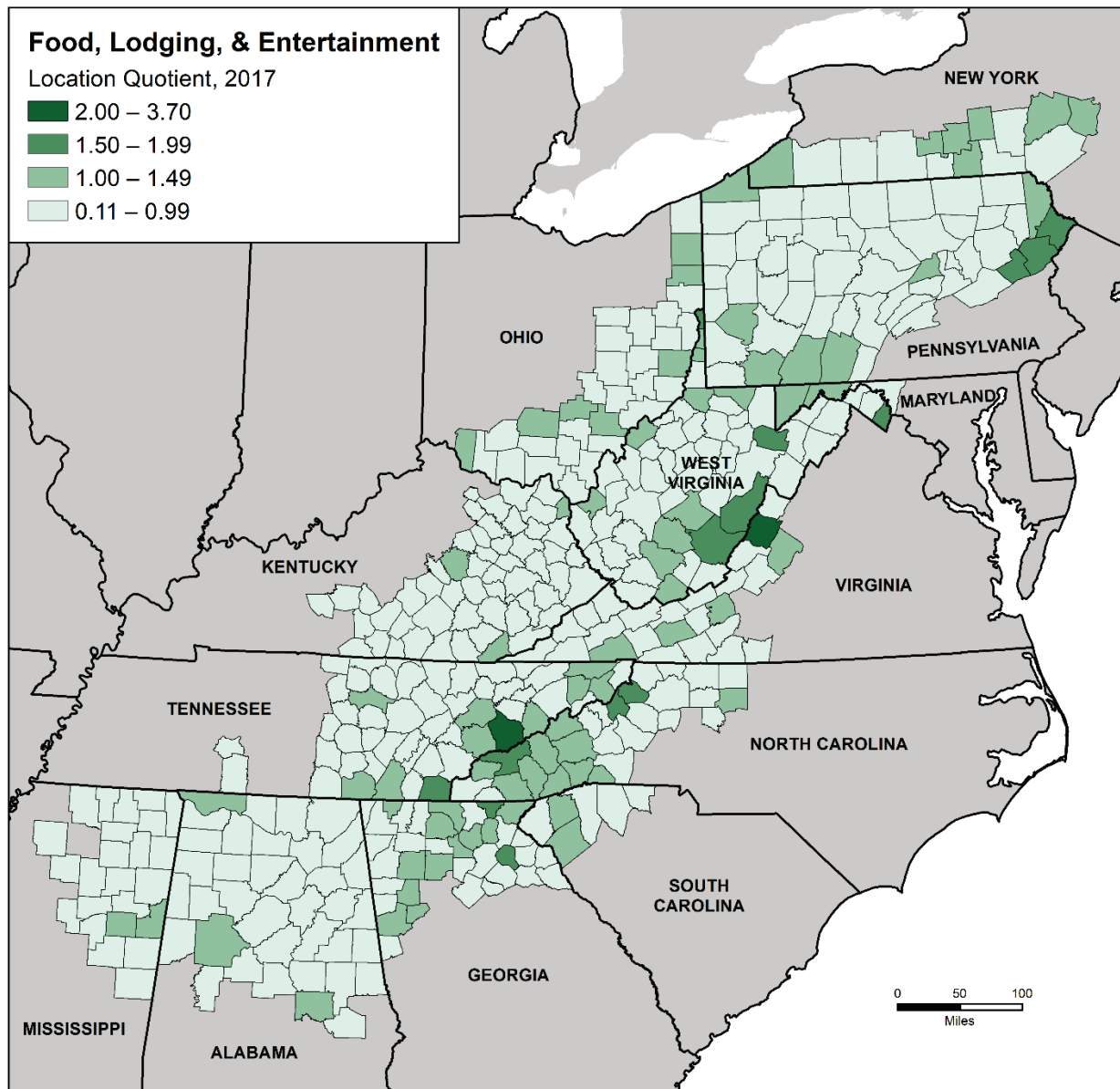
Figure 121: Location quotient, Manufacturing, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Food, Lodging, and Entertainment

Figure 122: Location quotient, Food, Lodging, and Entertainment, 2017

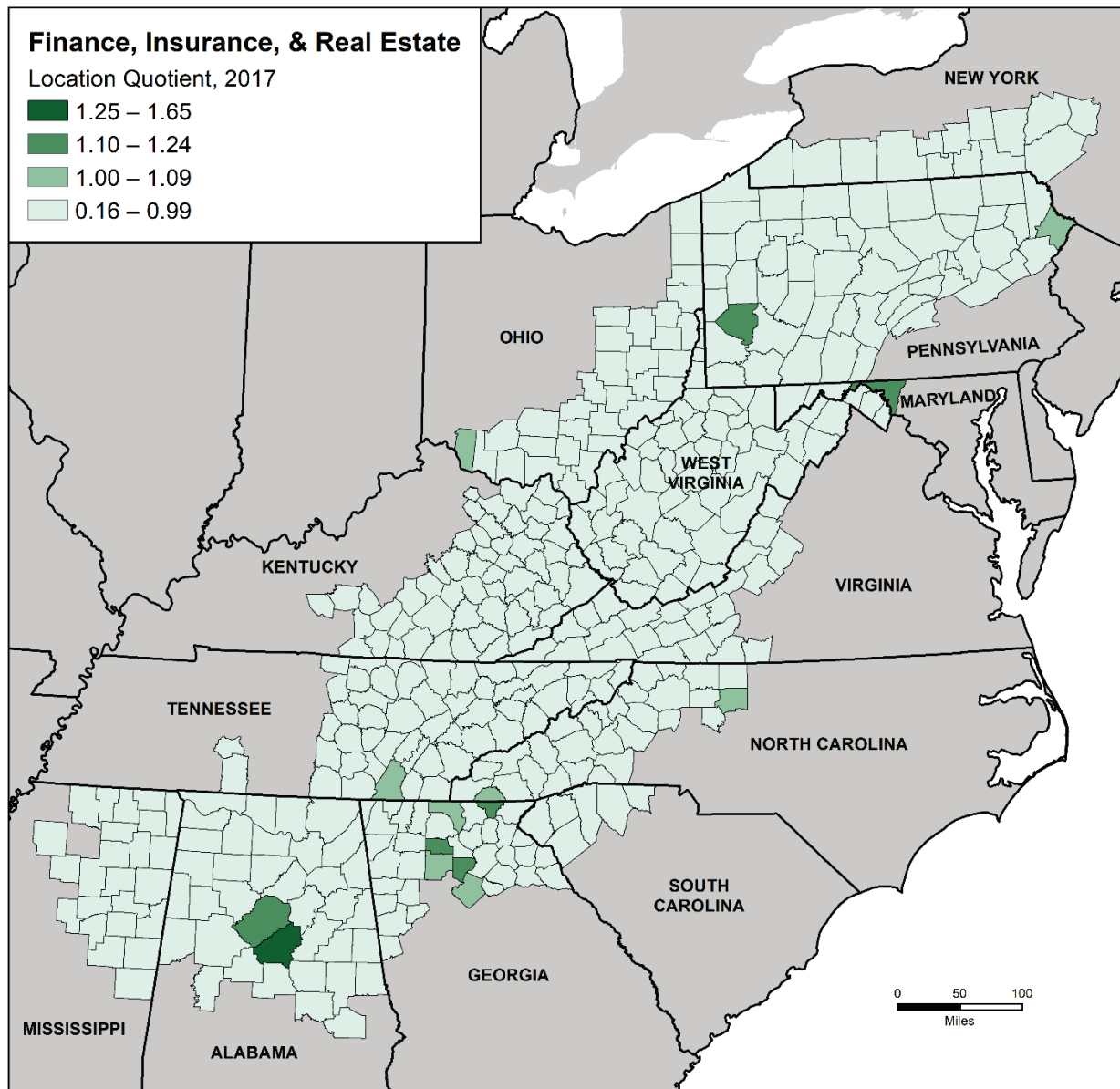


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Finance, Insurance, and Real Estate

Figure 123: Location quotient, Finance, Insurance, and Real Estate, 2017

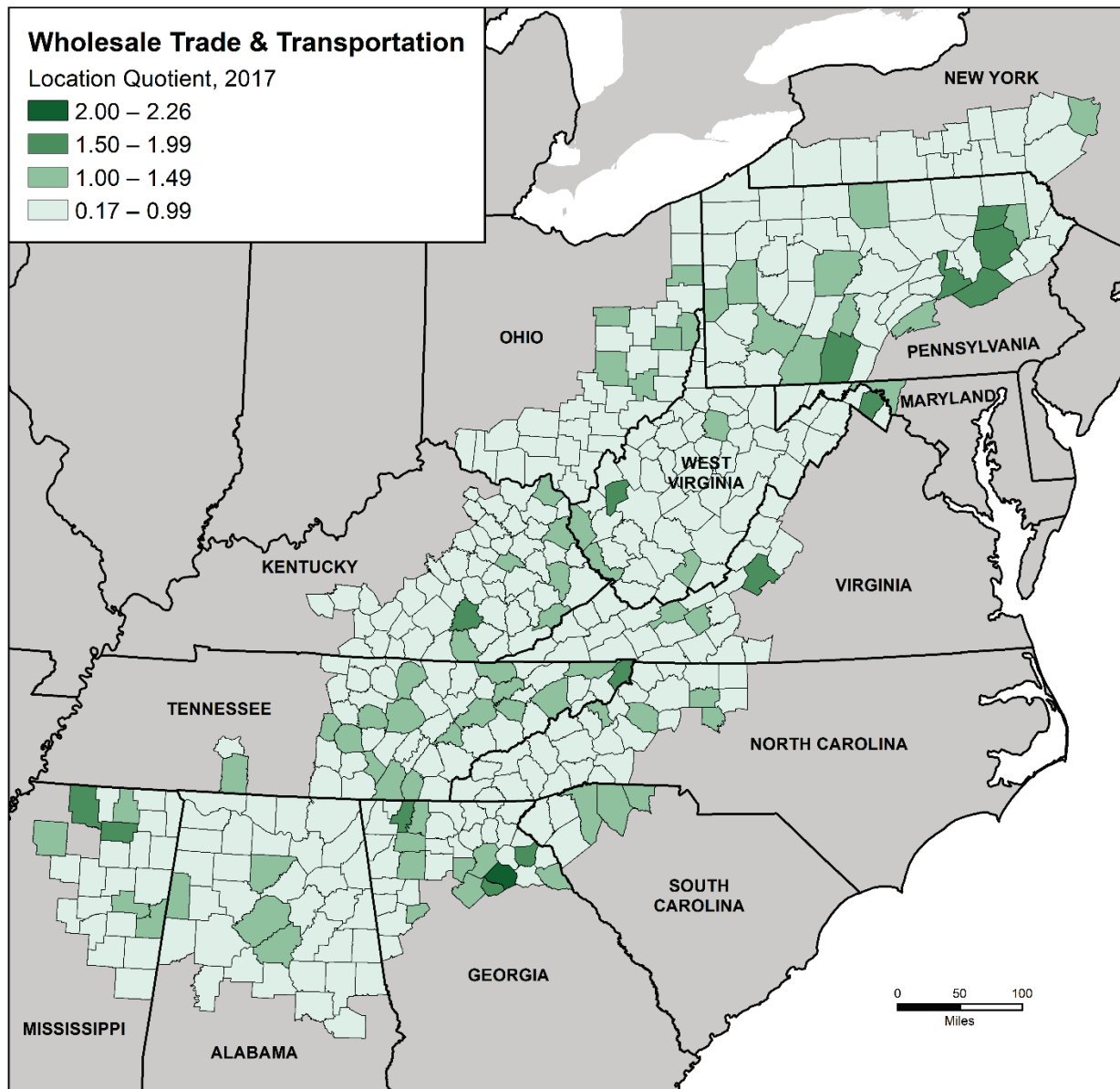


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Wholesale Trade and Transportation

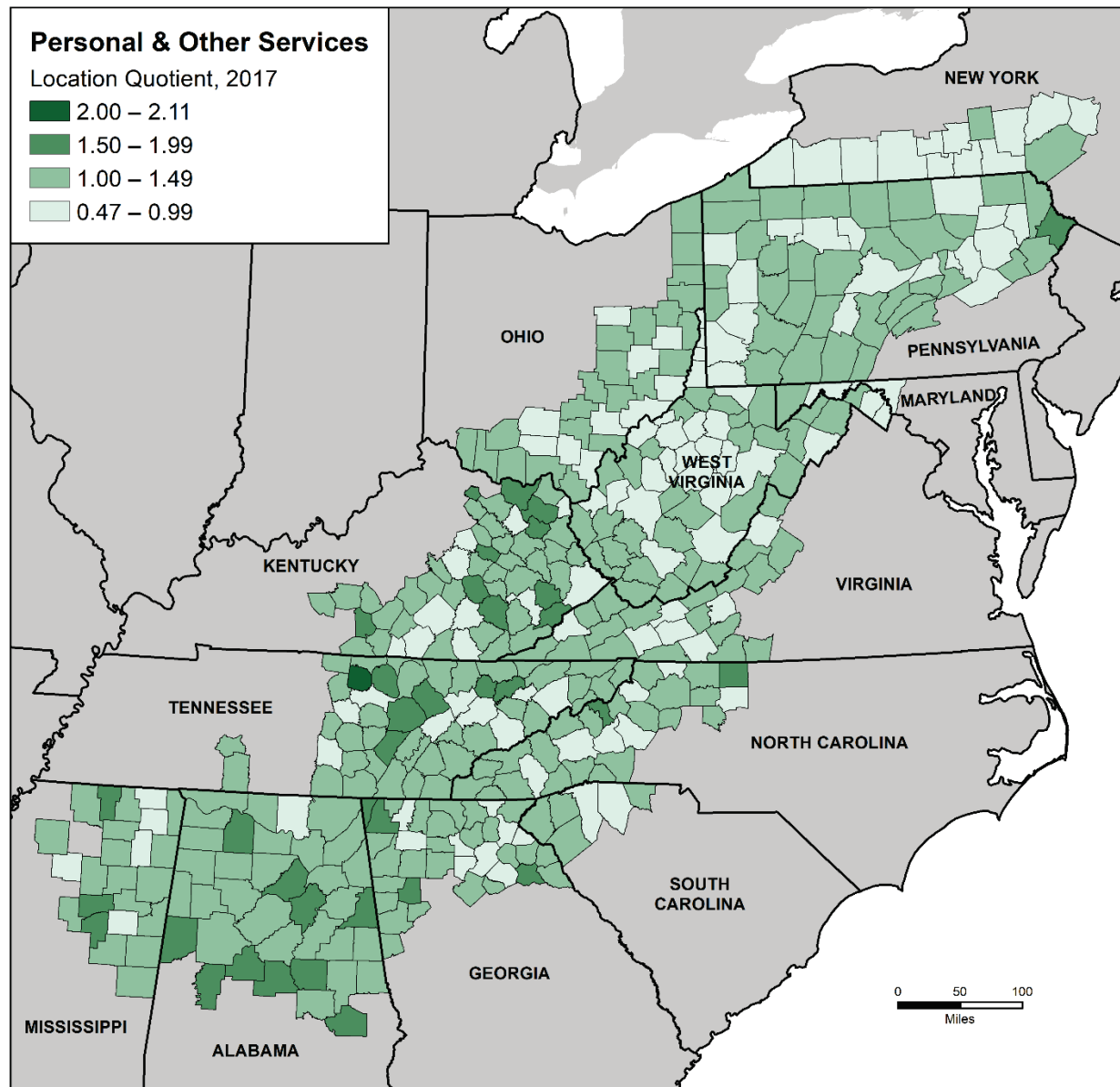
Figure 124: Location quotient, Wholesale Trade and Transportation, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Personal and Other Services

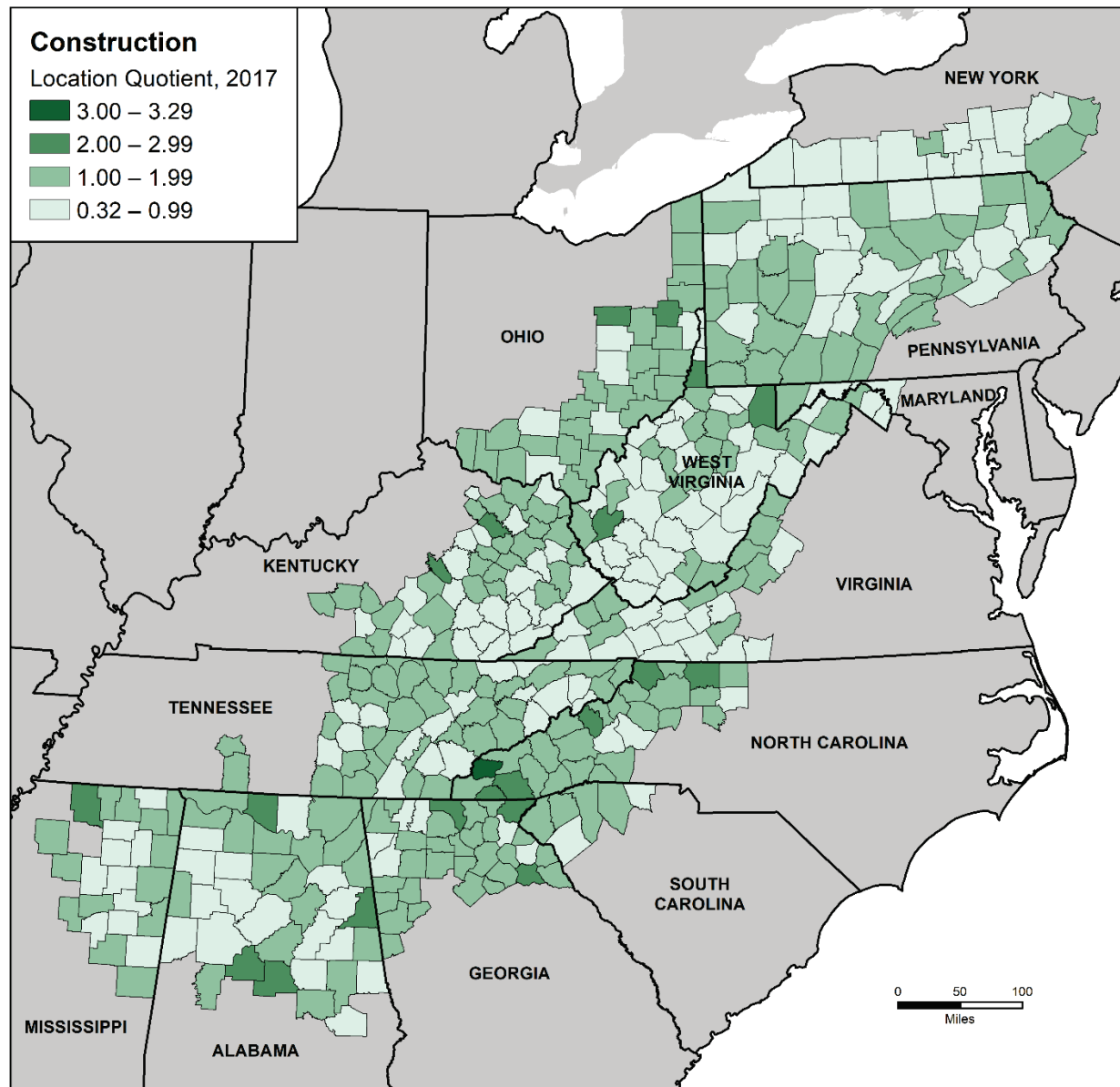
Figure 125: Location quotient, Personal and Other Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Construction

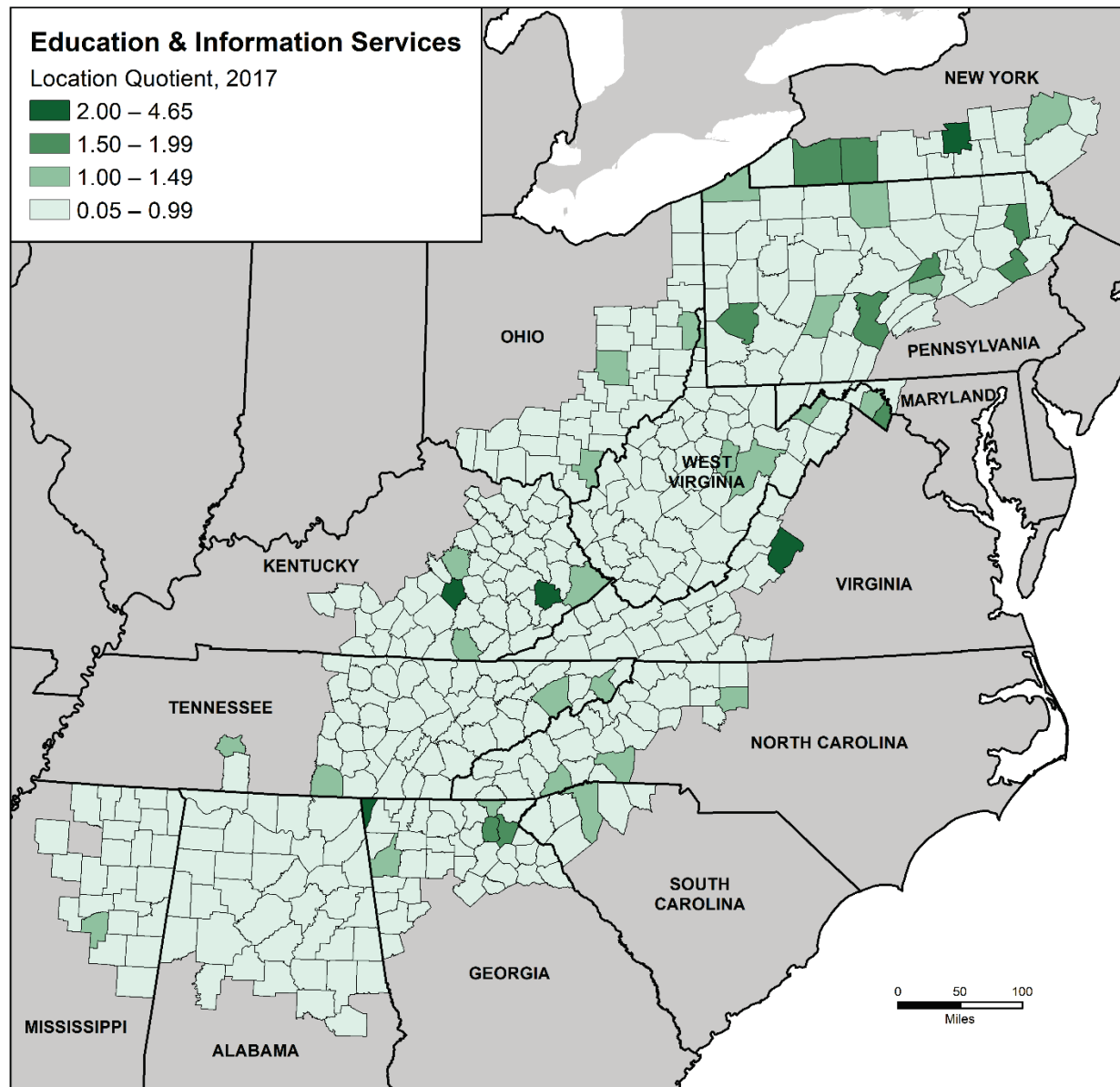
Figure 126: Location quotient, Construction, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Education and Information Services

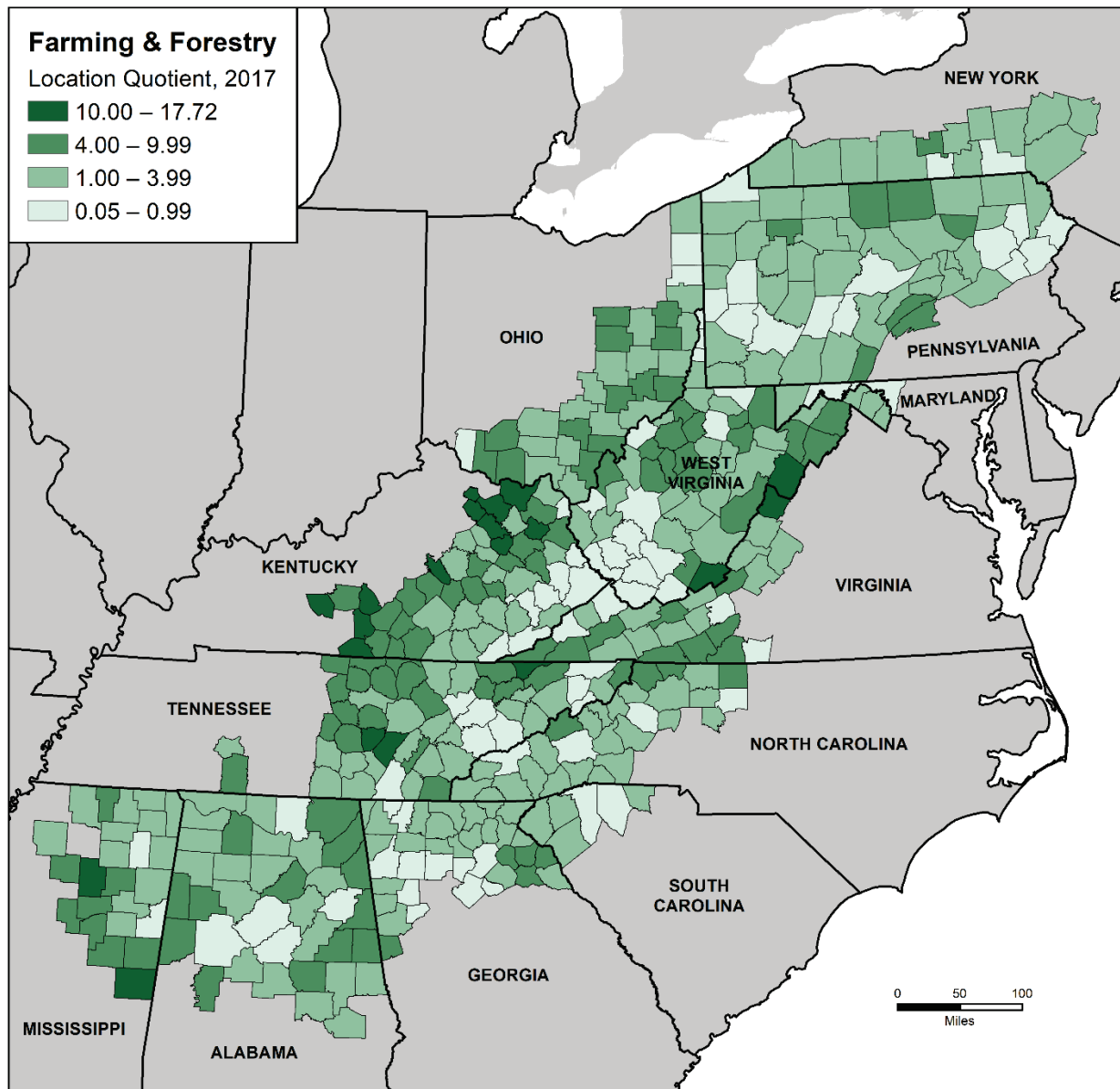
Figure 127: Location quotient, Education and Information Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Farming and Forestry

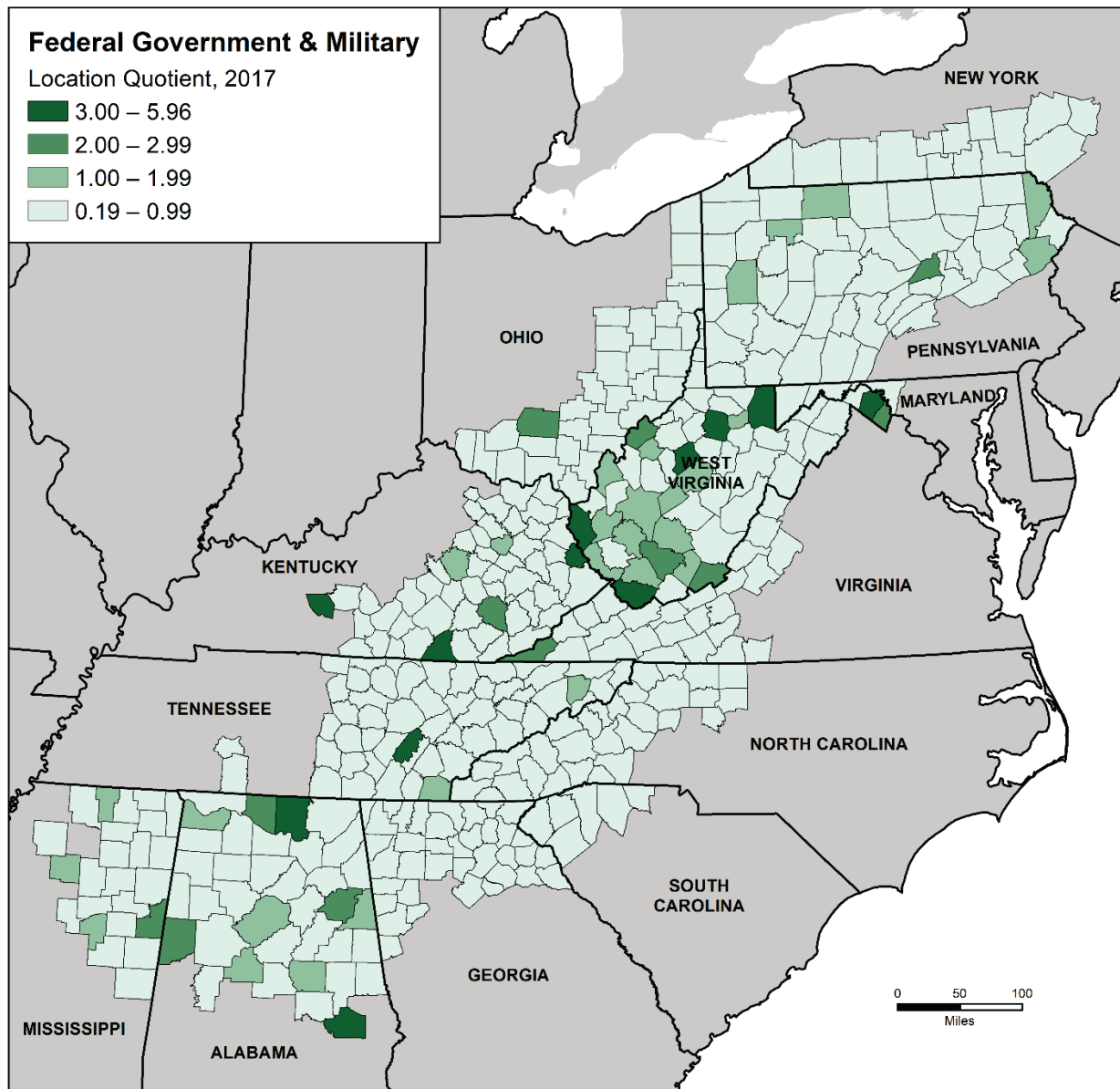
Figure 128: Location quotient, Farming and Forestry, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Federal Government and Military

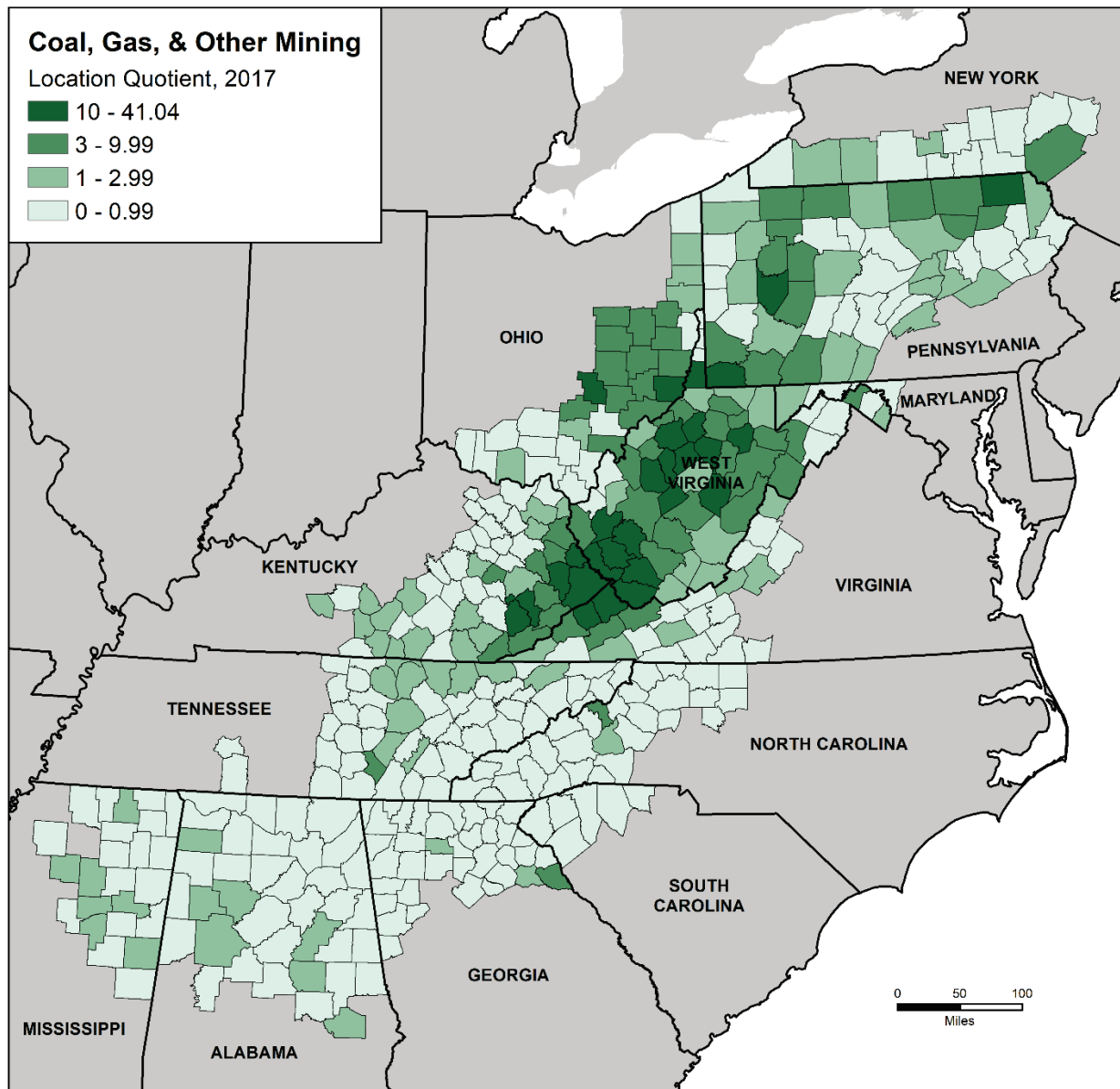
Figure 129: Location quotient, Federal Government and Military, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Coal, Gas, and Other Mining

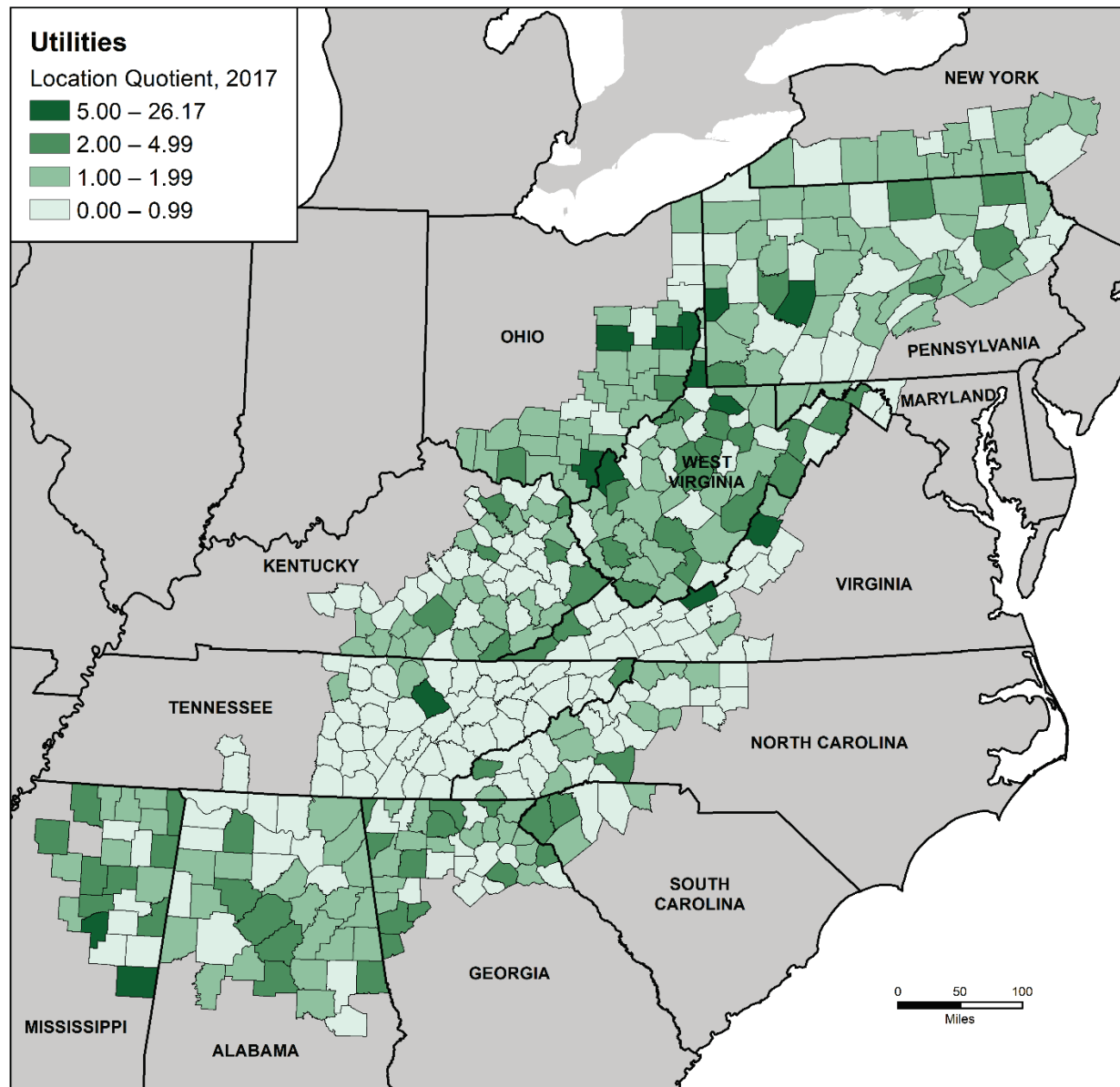
Figure 130: Location quotient, Coal, Gas, and Other Mining, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Utilities

Figure 131: Location quotient, Utilities, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

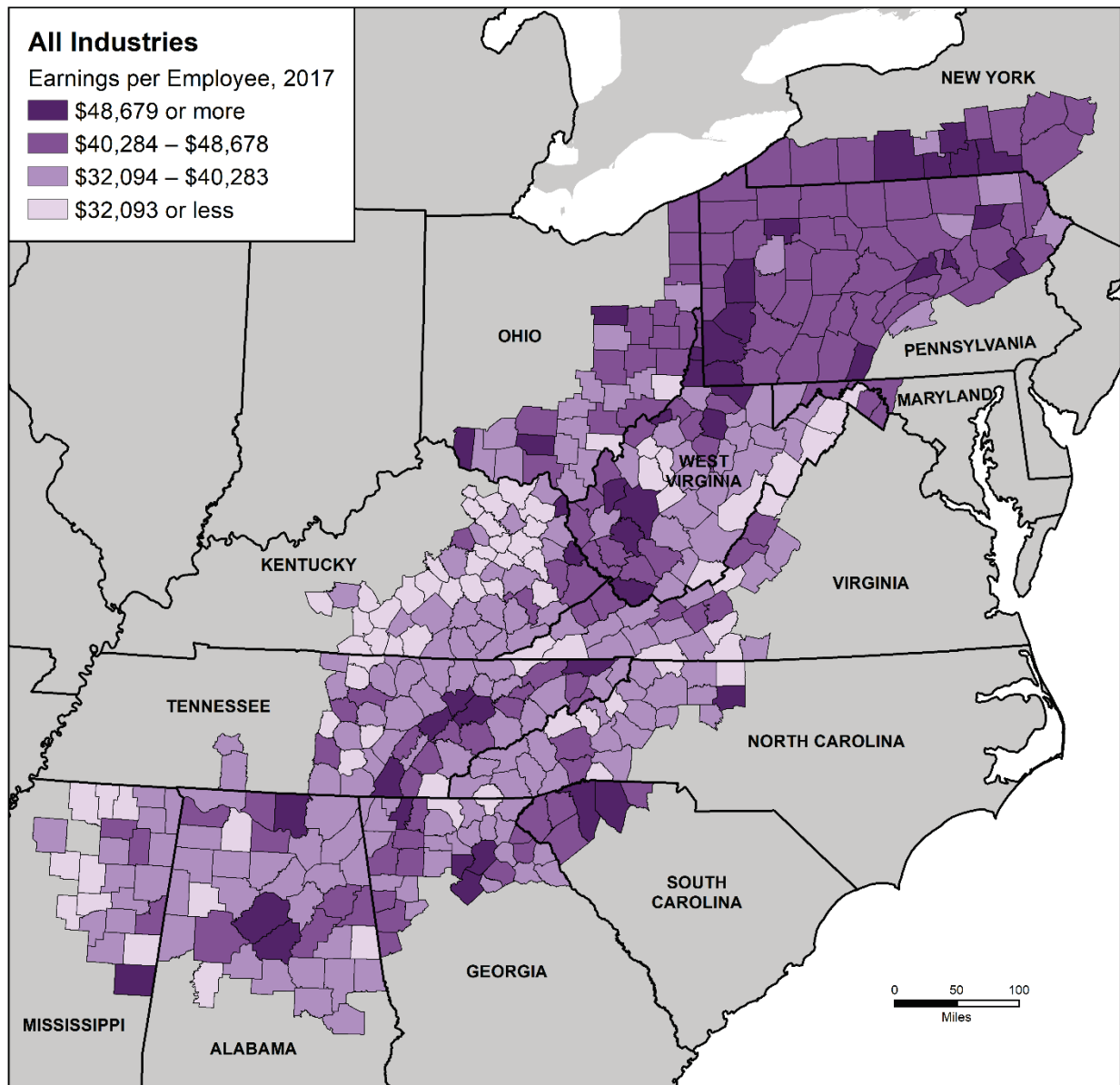


## Appendix C: Earnings Per Employee Maps, 2017

County-level maps for each industry's earnings per employee are featured here, ordered by share of total earnings in the Region, as shown in Chapter 4.

### All Industries

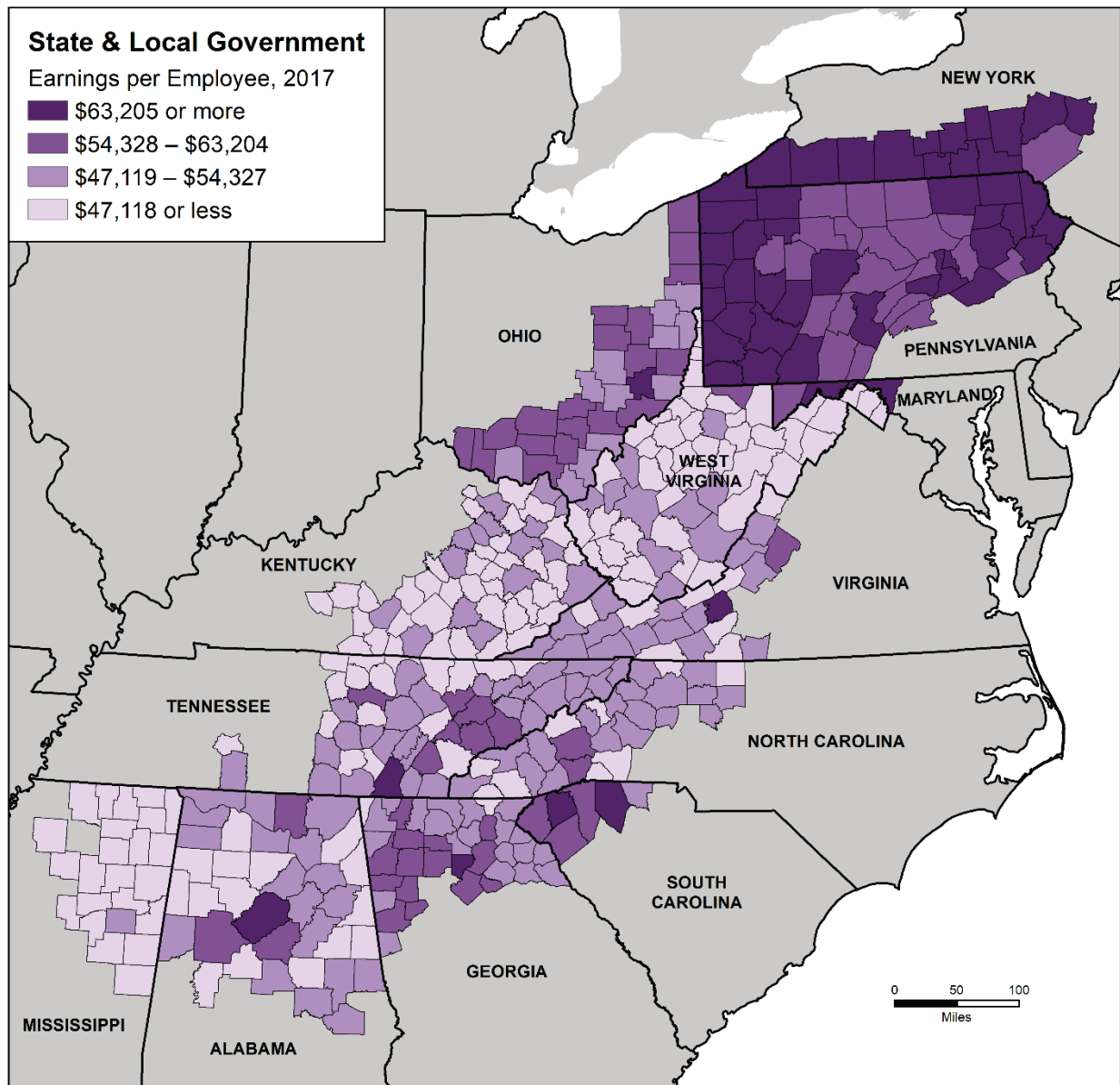
**Figure 132: Earnings per employee, all industries, 2017**



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## State and Local Government

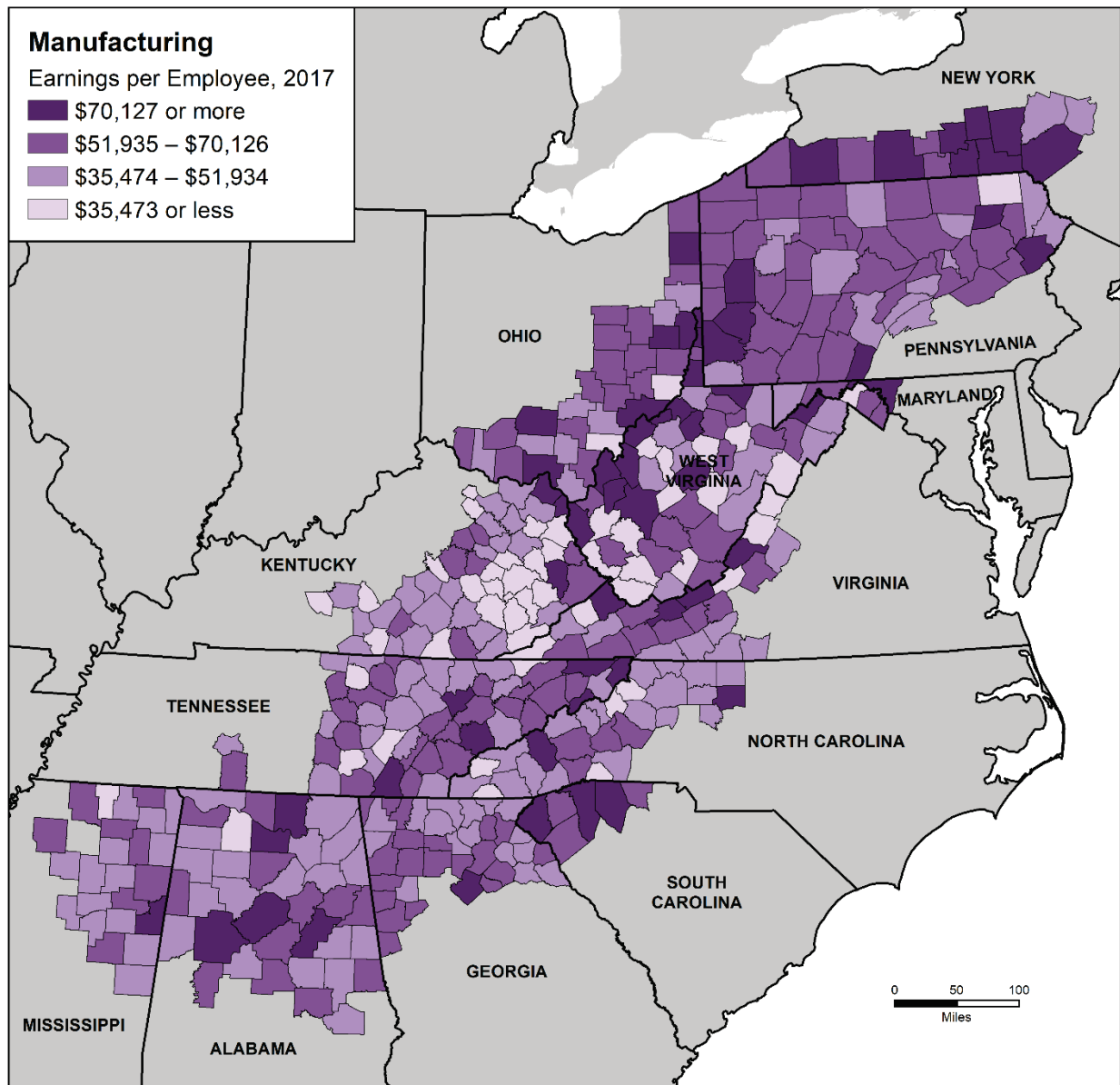
Figure 133: Earnings per employee, State and Local Government, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Manufacturing

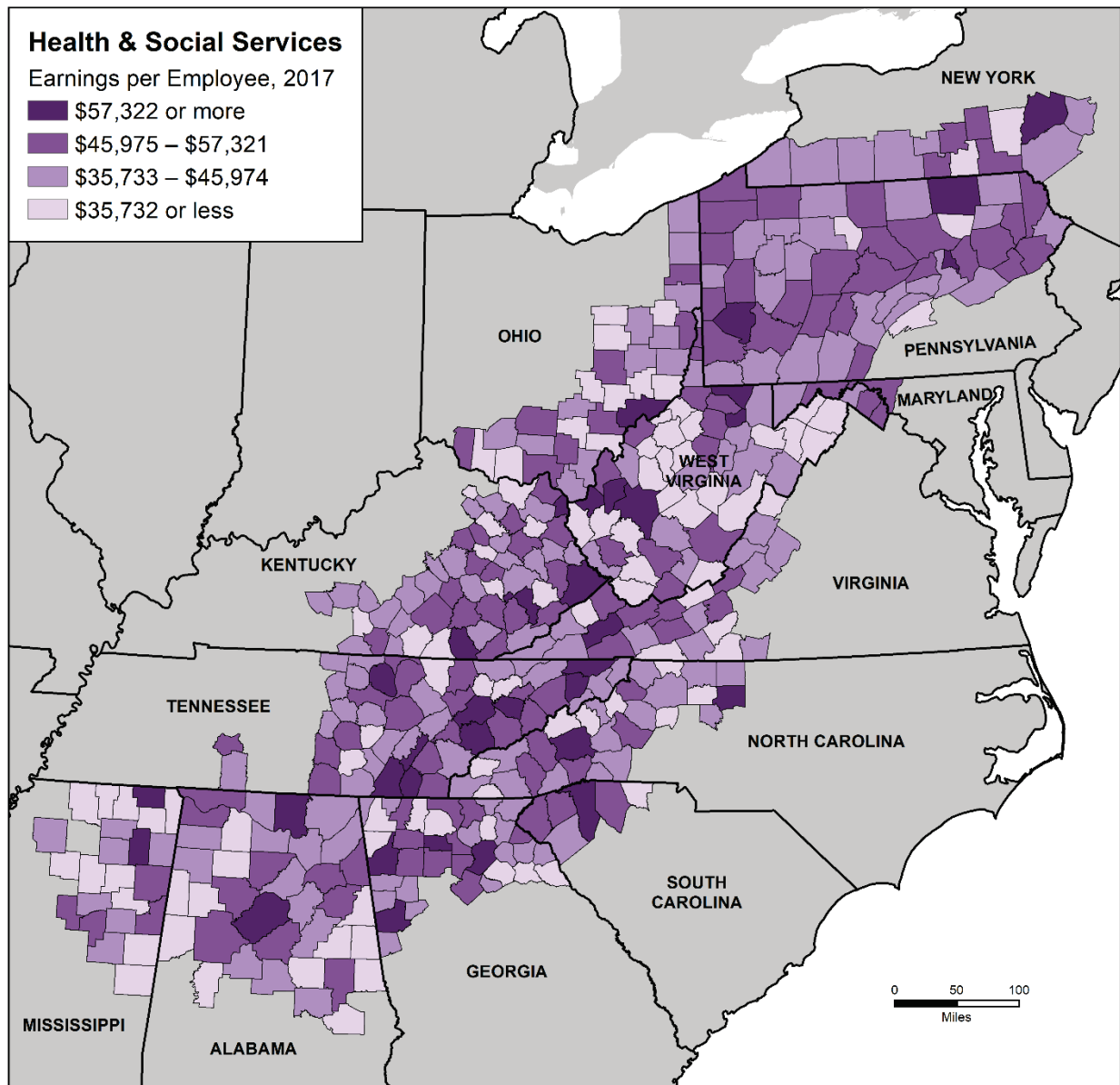
Figure 134: Earnings per employee, Manufacturing, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Health and Social Services

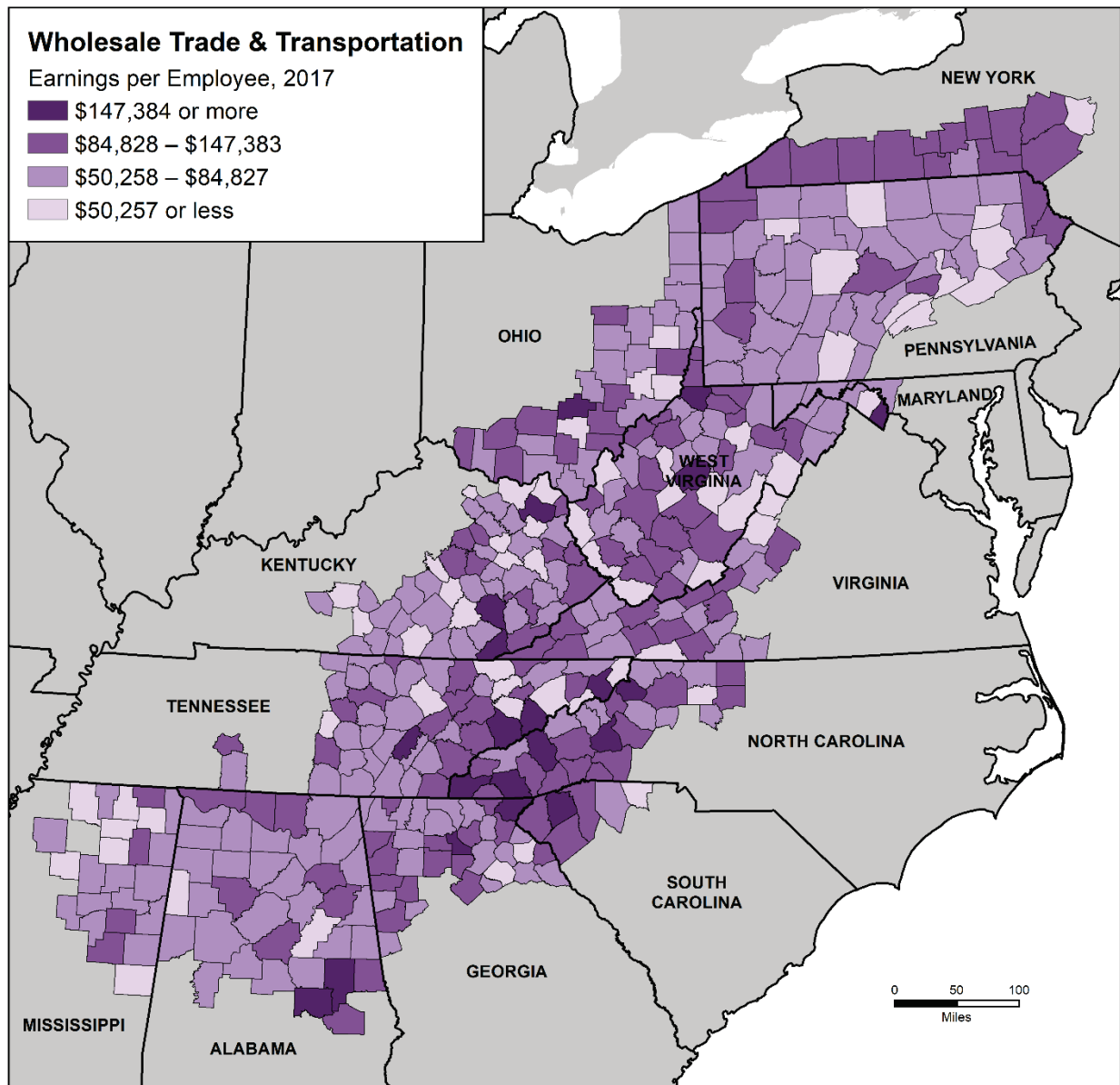
Figure 135: Earnings per employee, Health and Social Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Wholesale Trade and Transportation

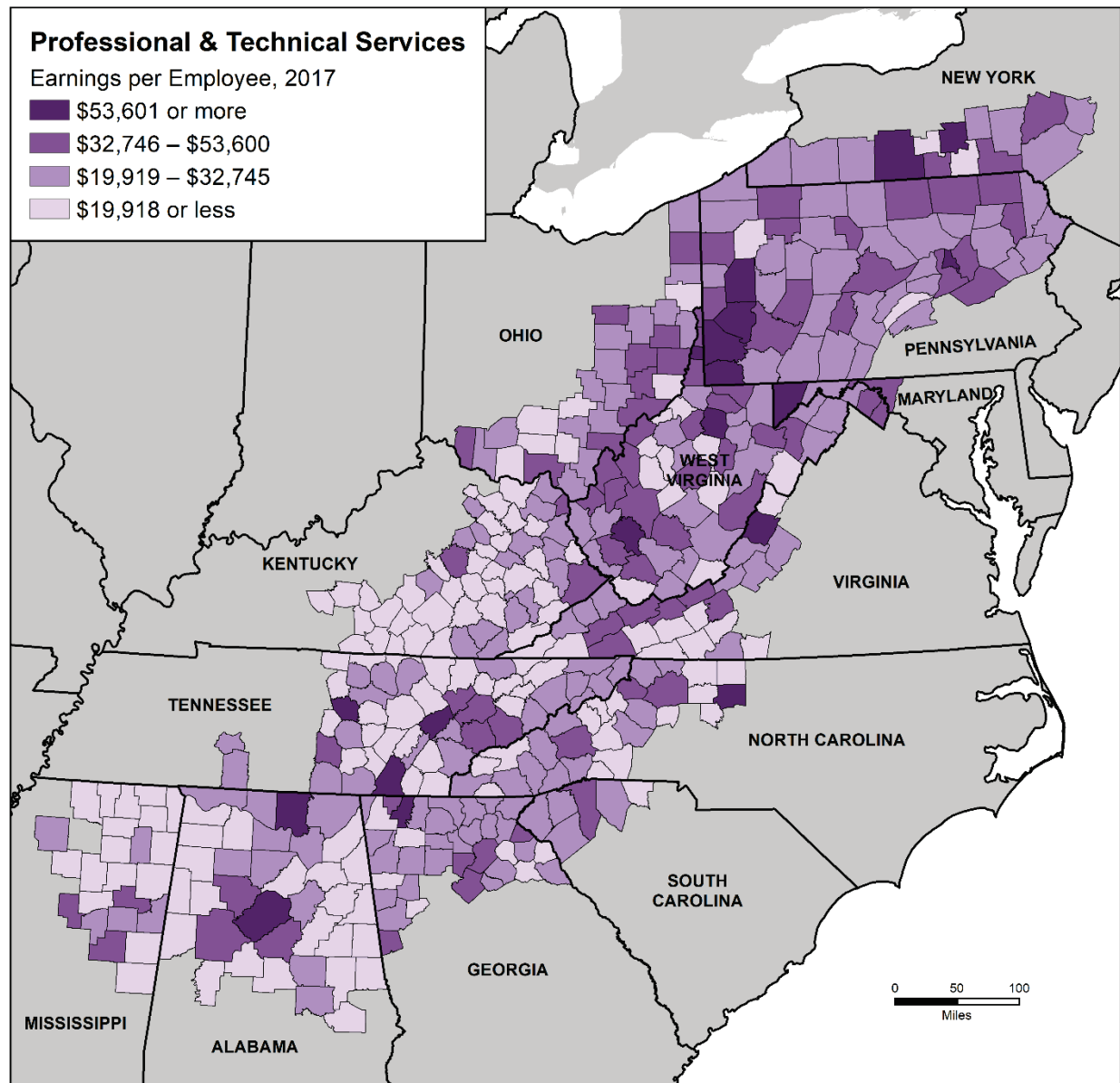
Figure 136: Earnings per employee, Wholesale Trade and Transportation, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Professional and Technical Services

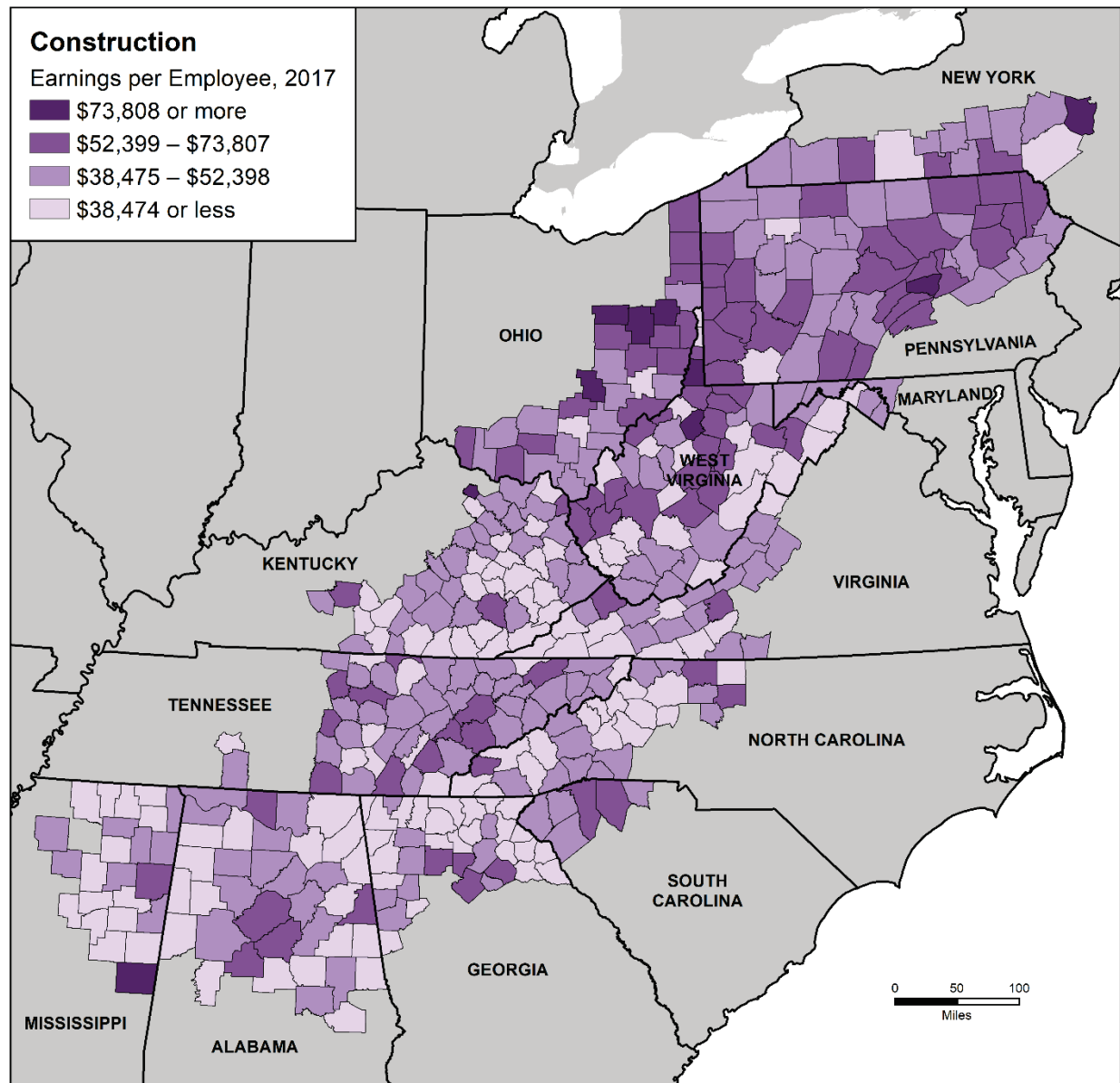
Figure 137: Earnings per employee, Professional and Technical Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Construction

Figure 138: Earnings per employee, Construction, 2017

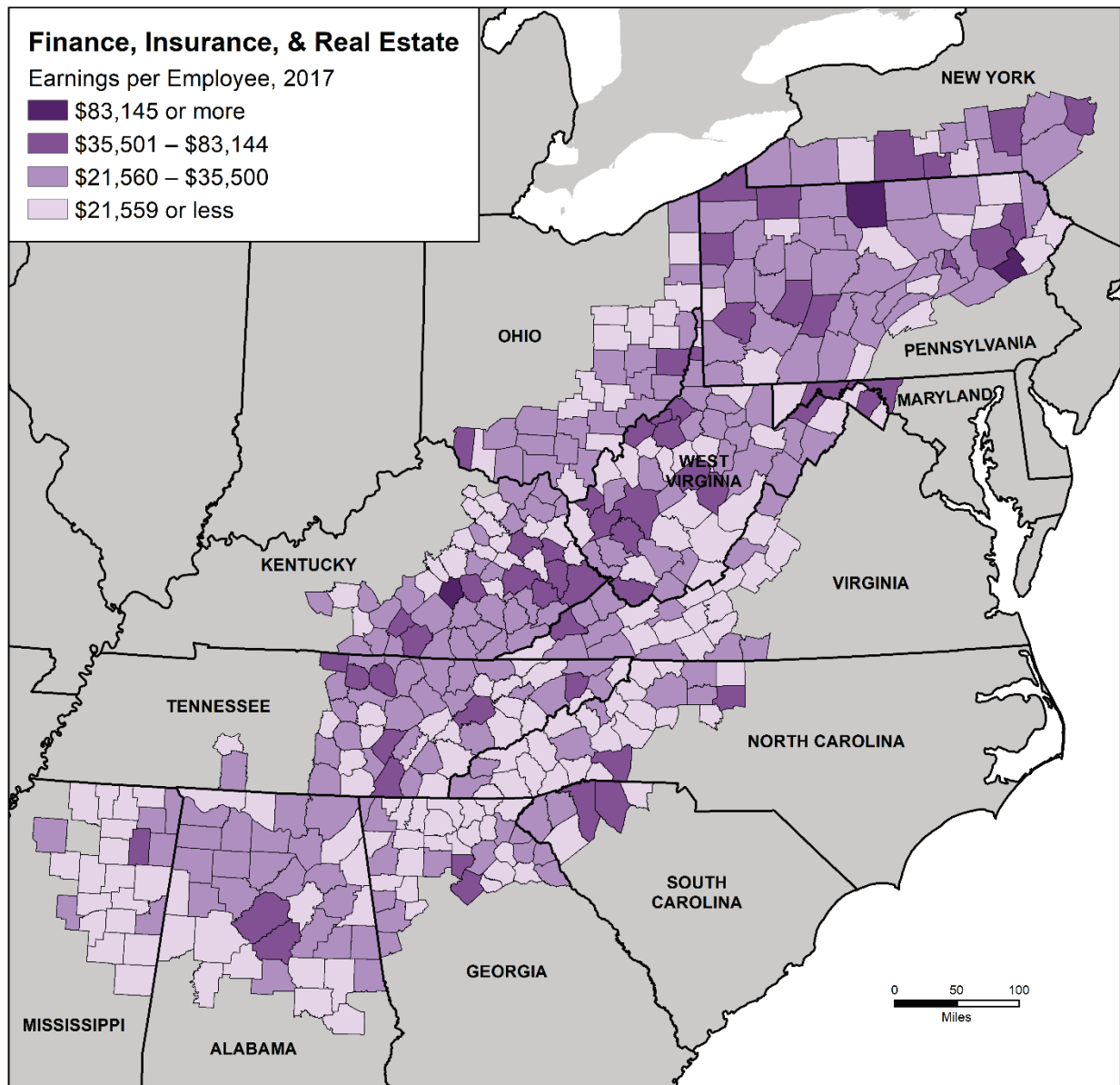


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Finance, Insurance, and Real Estate

Figure 139: Earnings per employee, Finance, Insurance, and Real Estate, 2017

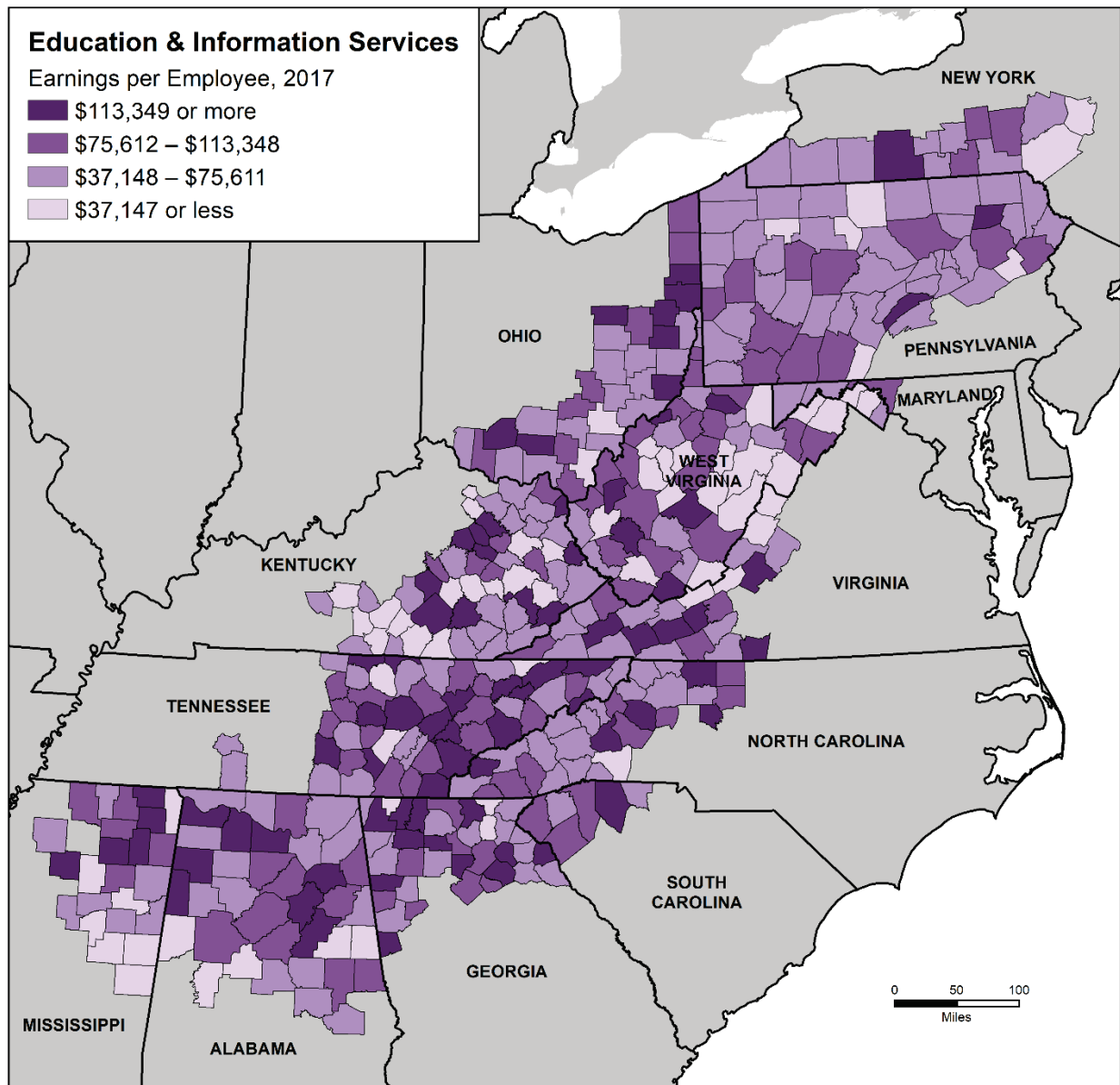


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Education and Information Services

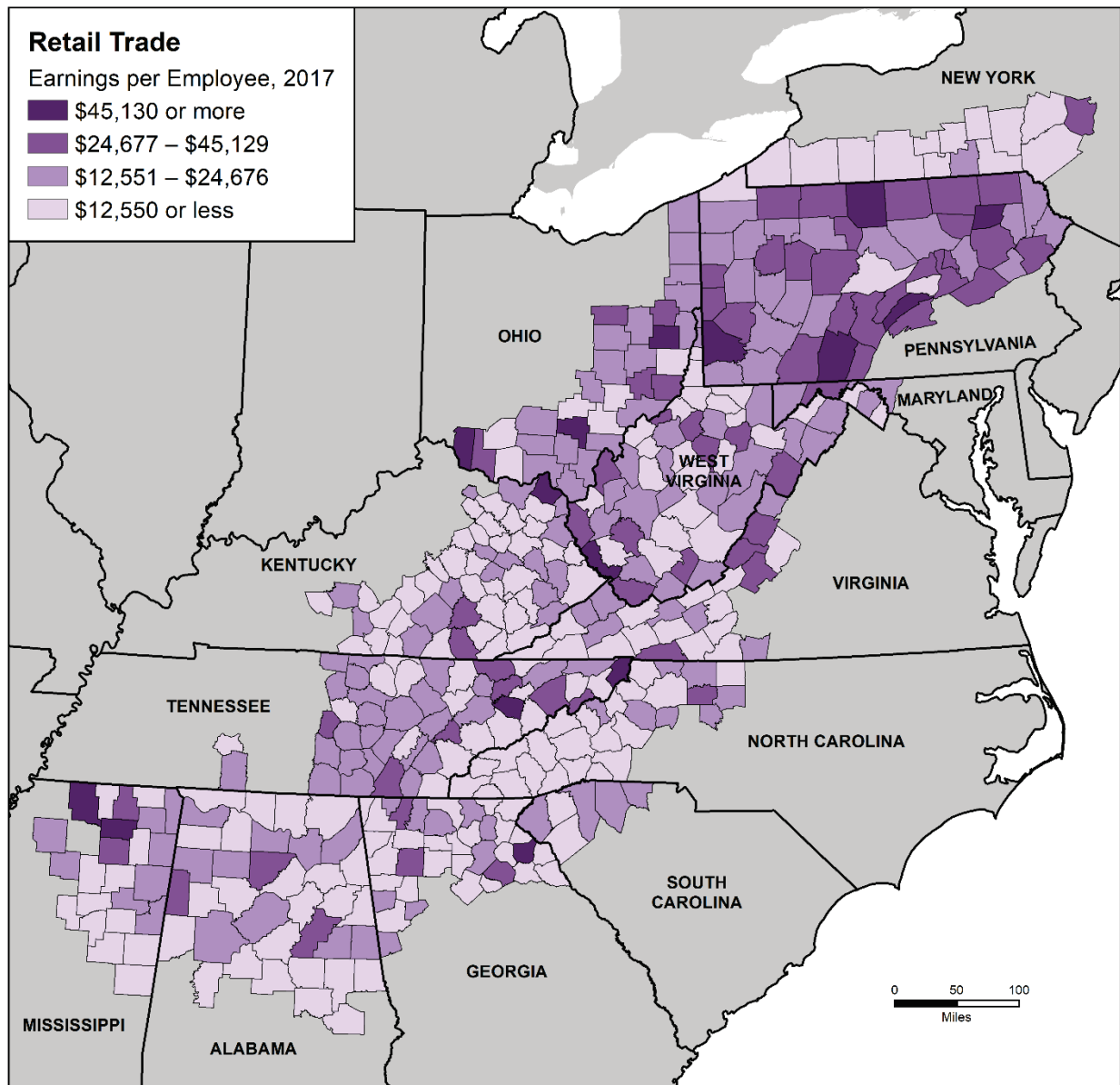
Figure 140: Earnings per employee, Education and Information Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Retail Trade

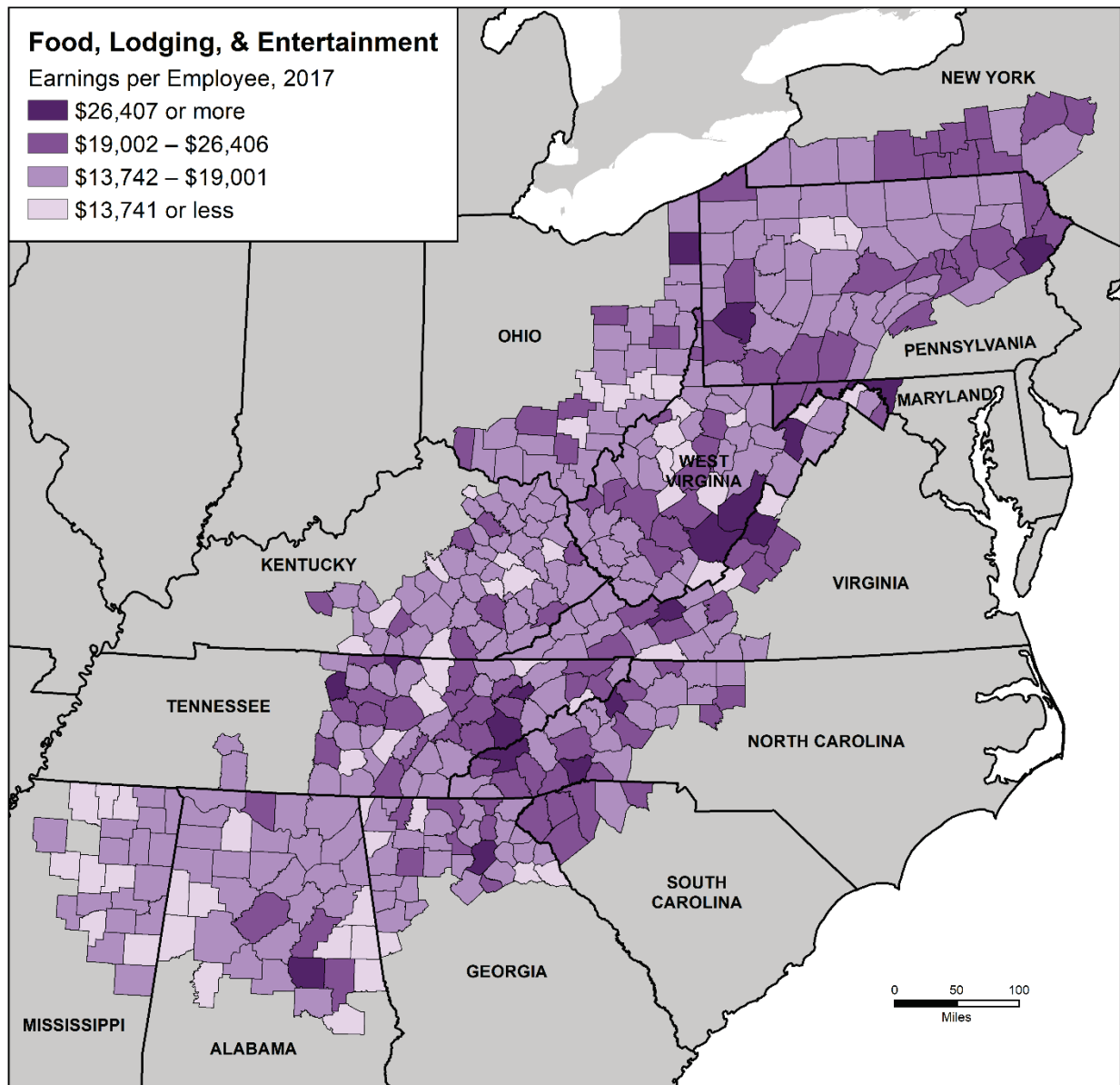
Figure 141: Earnings per employee, Retail Trade, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Food, Lodging, and Entertainment

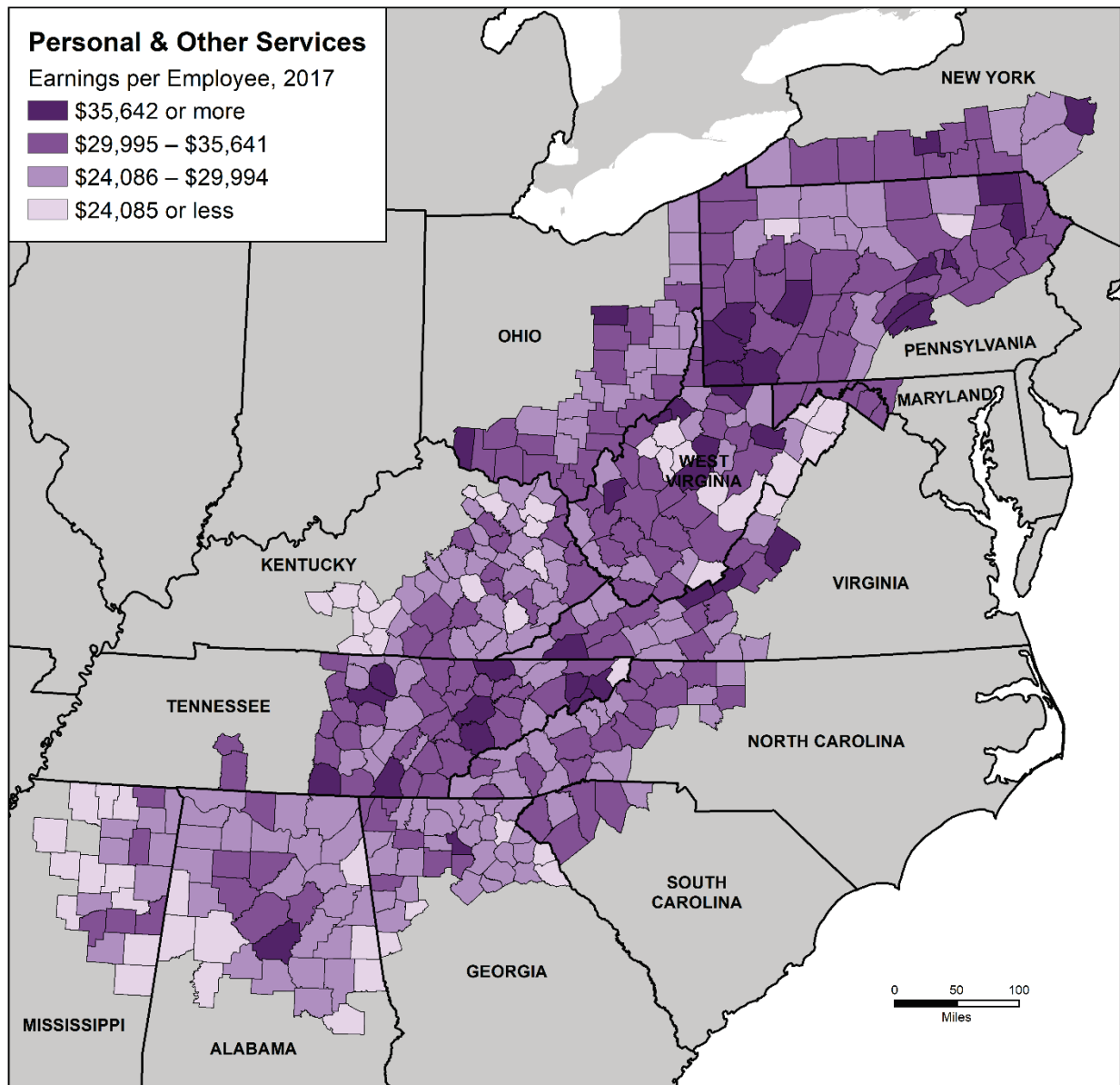
Figure 142: Earnings per employee, Food, Lodging, and Entertainment, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Personal and Other Services

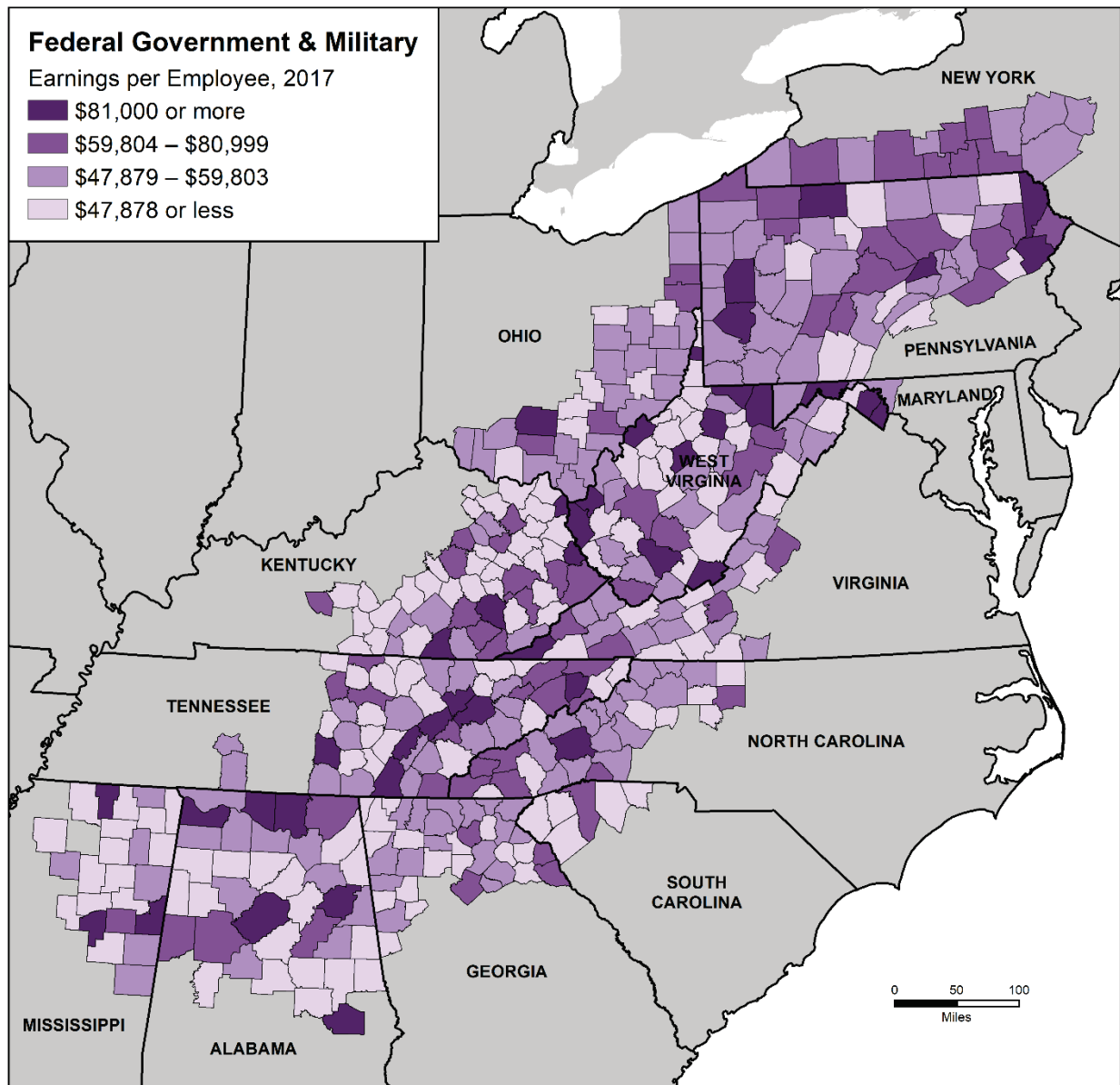
Figure 143: Earnings per employee, Personal and Other Services, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Federal Government and Military

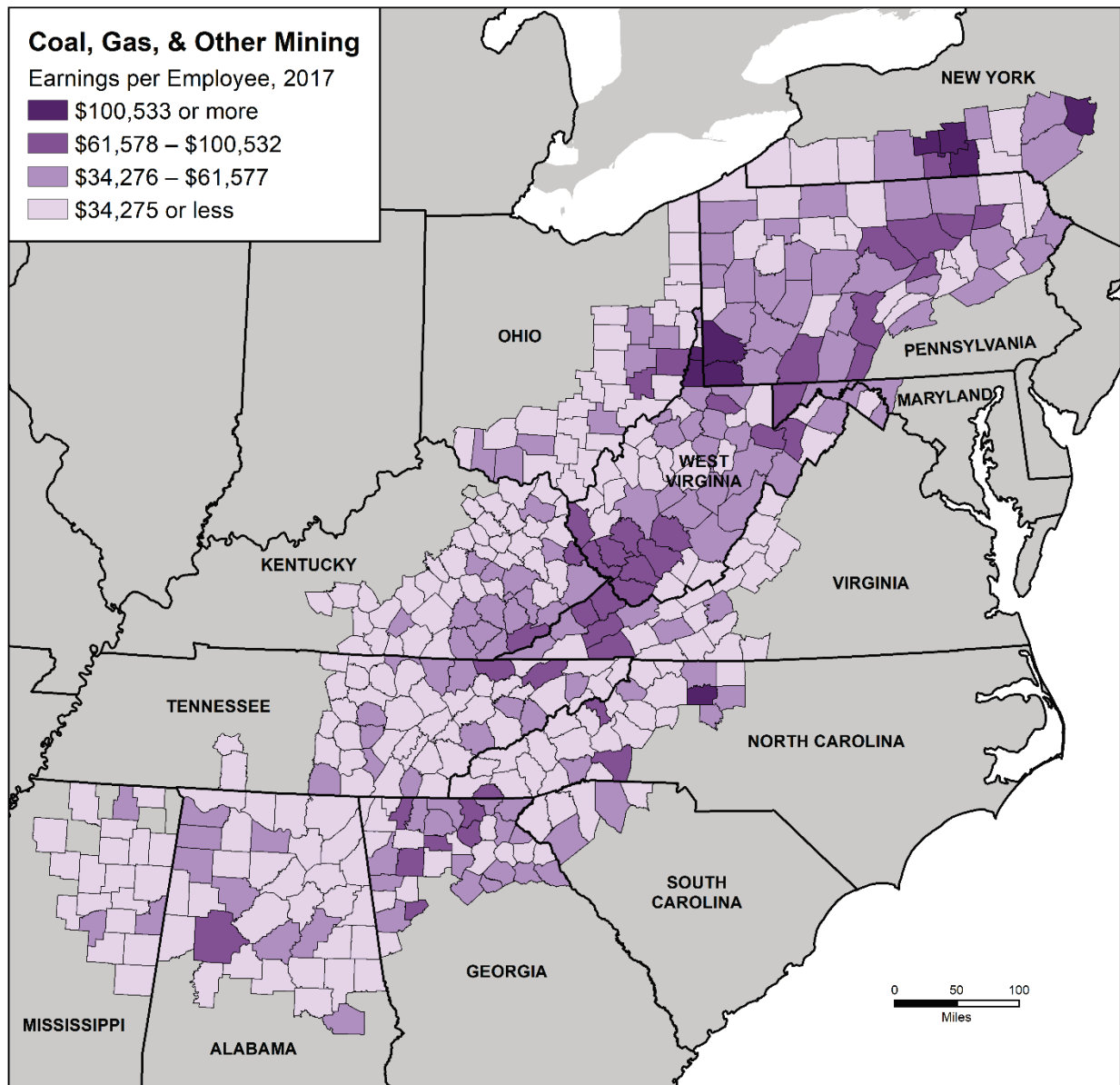
Figure 144: Earnings per employee, Federal Government and Military, All Industries, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Coal, Gas, and Other Mining

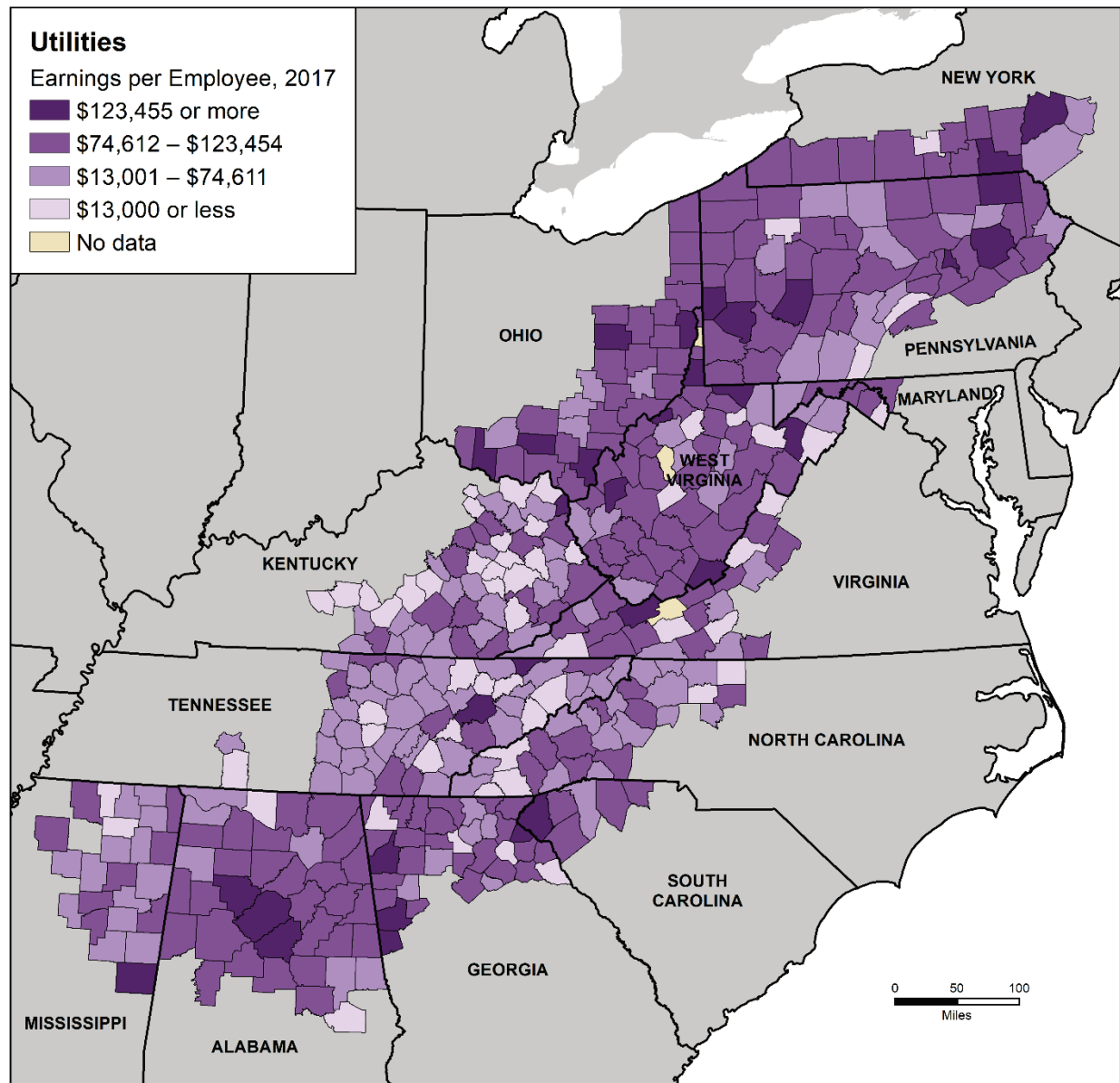
Figure 145: Earnings per employee, Coal, Gas, and Other Mining, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source

## Utilities

Figure 146: Earnings per employee, Utilities, 2017

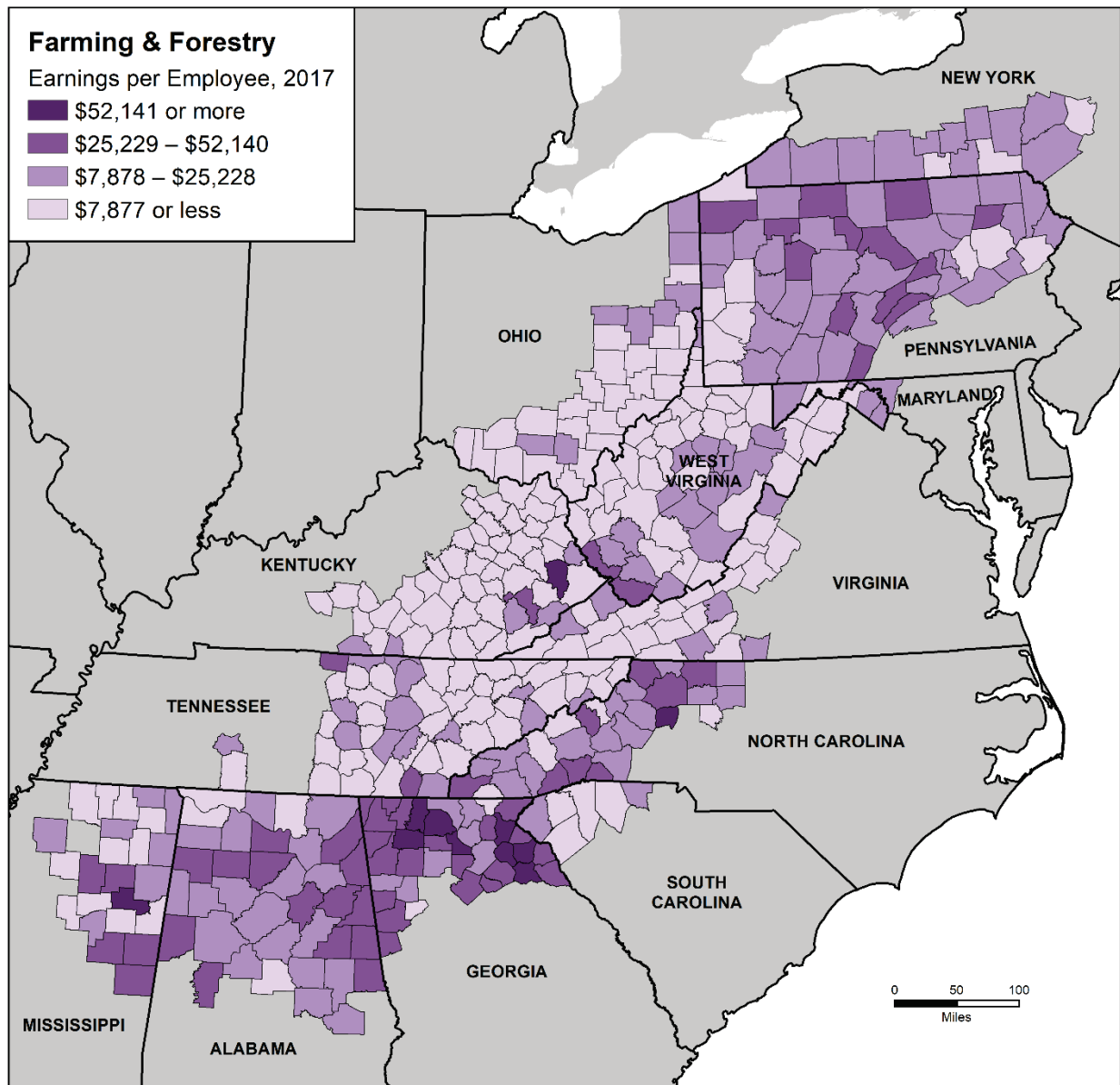


Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source



## Farming and Forestry

Figure 147: Earnings per employee, Farming and Forestry, 2017



Data source: Woods & Poole, 2019 Complete Economic and Demographics Data Source