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Manufacturing employment in the Southeast: examining the last 30 years

U.S. manufacturing has been in decline for the last forty years, bringing real economic impact. This paper examines the Southern region experience. Variation in rate of decline and industry evolution are shown across states. The important transportation equipment manufacturing industry is explored in more detail. The overall takeaway is that manufacturing looks different across the Southeast

Various regions of the United States have experienced different paths of declines in manufacturing employment since the 1979 national manufacturing employment peak. This article focuses on the changes in manufacturing employment in the Southeastern United States from 1990 to 2019 and is part of a series describing manufacturing trends by Census regions.

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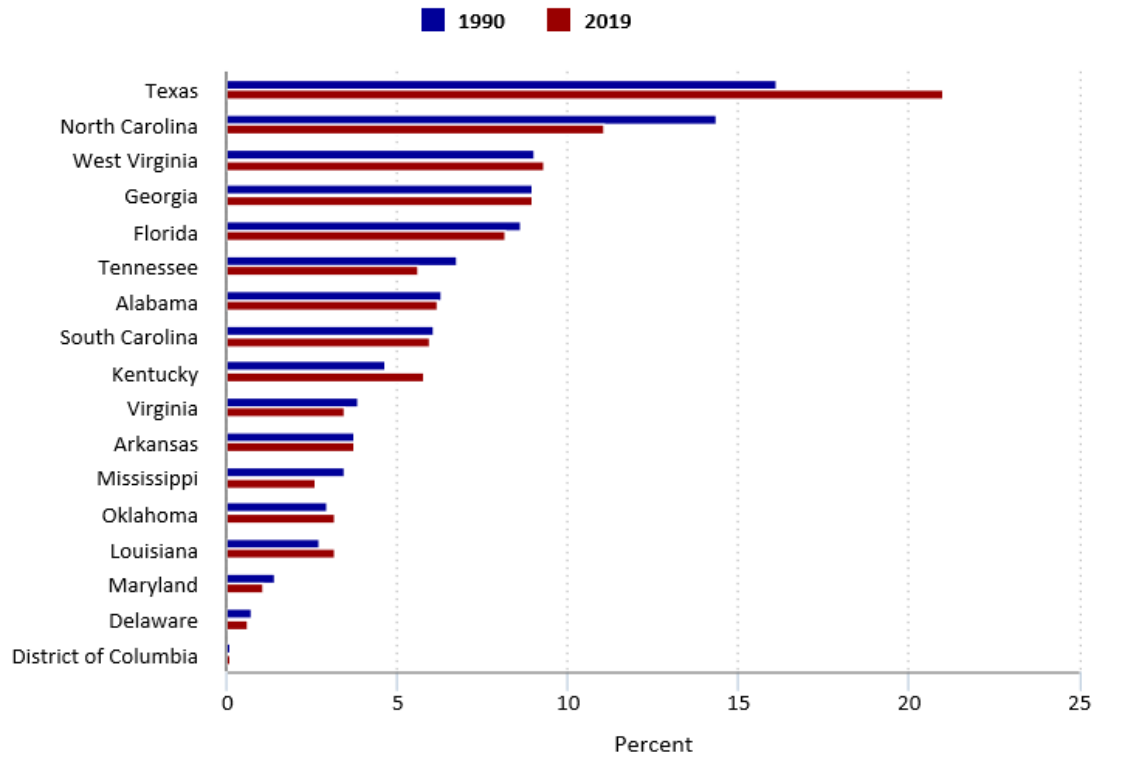
Geography overview

The Southeast region is large and diverse, encompassing 17 states.[1] However, five states make up 58.5 percent of the Southeast region's manufacturing employment as of the end of 2019: Texas (21.0 percent), North Carolina (11.1 percent), Georgia (9.3 percent), Florida (9.0 percent), and Tennessee (8.2 percent). Texas had the largest increase in regional share, with an increase of 4.8 percentage points, whereas North Carolina had the largest decrease in regional share, with a decrease of 3.3 percentage points. (See chart 1.)

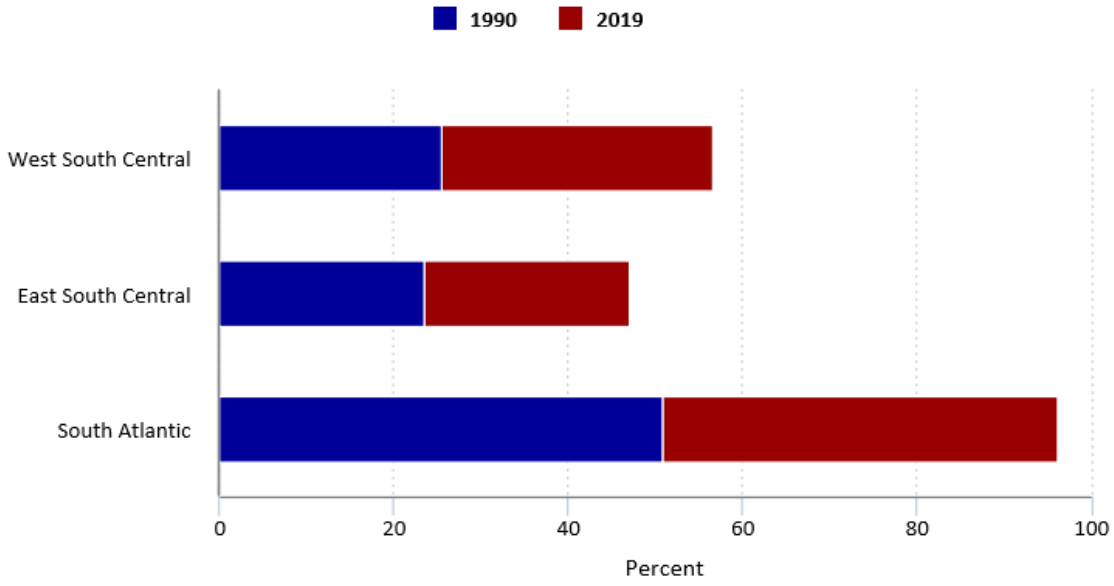
Chart 1. State share of Southeast region manufacturing employment, by percentage, 1990 and 2019



Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, State and Metro Area.

To better examine manufacturing labor market trends in the Southeast, we view the region by its three divisions, as defined by the U.S. Census Bureau: South Atlantic, East South Central, and West South Central.[2] (See chart 2.) The manufacturing employment share of the South Atlantic division expanded by 5.8 percentage points in the last 30 years, indicating manufacturing labor was perhaps more resilient in the South Atlantic division. The employment share of West South Central increased by 5.5 percentage points, while the share in the East South Central division showed little to no change.

Chart 2. State share of Southeast region manufacturing employment, by percentage, 1990 and 2019



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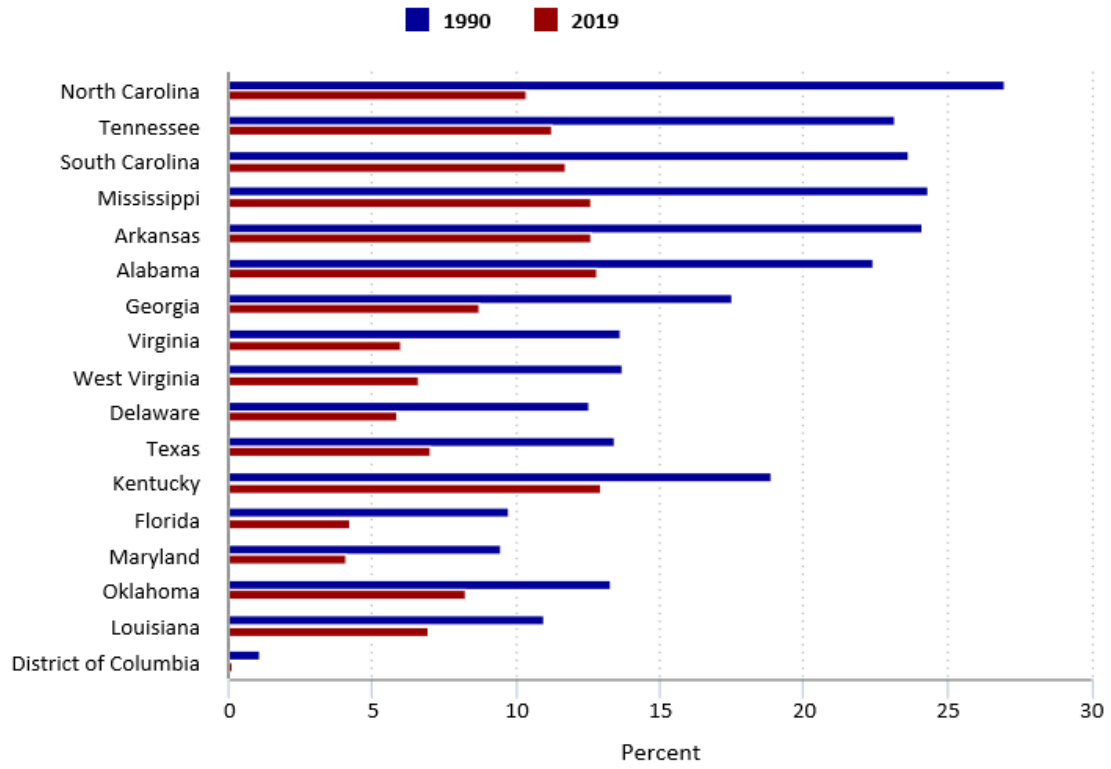
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, State and Metro Area.

Over the last 30 years, manufacturing jobs declined both nationally and across individual states. In terms of a state's manufacturing share to total nonfarm jobs, the average manufacturing share to total nonfarm employment was 8.4 percent in the Southeast region, compared with 16.4 percent in 1990. (See chart 3.) In the Southeastern region, manufacturing jobs in five states accounted for almost one-fourth of their region's total nonfarm employment in 1990. The five states included North Carolina (27.0 percent), Tennessee (23.2 percent), South Carolina (23.6 percent), Mississippi (24.4 percent), and Arkansas (24.2 percent). In contrast, these five states' manufacturing jobs only made up for approximately one-eighth of the total regional nonfarm employment in 2019. The largest decreases in states' manufacturing share to total nonfarm employment occurred in North Carolina (-16.6 percentage points), and South Carolina and Tennessee (-11.9 percentage points each).

Chart 3. Manufacturing share of total nonfarm employment for Southeastern states, by percentage, 1990 and 2019



Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages.

Manufacturing job loss appears related to actual manufacturing firm closures. The total number of manufacturing establishments for all employment sizes in the Southeast region decreased by 1.4 percent during the 2001–19 period. (See table 1.) During this same period, Florida (18.9 percent) and South Carolina (17.5 percent) had the largest percentage increase in the number of the manufacturing establishment. Texas had the largest number of manufacturing establishments in 2019, at 25,559, with an increase of 2.1 percent from 2001, while Florida, with 20,827 manufacturing establishments, ranked second.

Nevertheless, the Industrial Production Manufacturing index on a national scale has trended upward, from 59.1 in January 1990 to 106.4 in December 2019, driven mostly by computer and electronic product employment due to gains in labor productivity. This upward trend indicates that manufacturers have become far more productive over the years, producing more (valuable) goods, with relatively less labor and physical establishments.

Table 1. Statewide number of establishments in private, manufacturing industry for all establishment sizes, 2001 and 2019

State	Annual 2001	Annual 2019	Percentage change
Total	119,325	117,709	1.37
Alabama	6,132	5,684	-7.31

See footnotes at end of table.

Table 1. Statewide number of establishments in private, manufacturing industry for all establishment sizes, 2001 and 2019

State	Annual 2001	Annual 2019	Percentage change
Arkansas	3,750	2,929	-21.89
Delaware	672	662	-1.49
District of Columbia	379	199	-47.49
Florida	17,523	20,827	18.86
Georgia	10,119	10,018	-1.00
Kentucky	4,931	4,565	-7.42
Louisiana	4,604	4,456	-3.21
Maryland	4,714	4,133	-12.32
Mississippi	3,069	2,398	-21.86
North Carolina	12,388	10,239	-17.35
Oklahoma	4,879	4,220	-13.51
South Carolina	5,447	6,401	17.51
Tennessee	7,762	7,280	-6.21
Texas	25,033	25,559	2.10
Virginia	6,257	6,886	10.05
West Virginia	1,666	1,253	-24.79

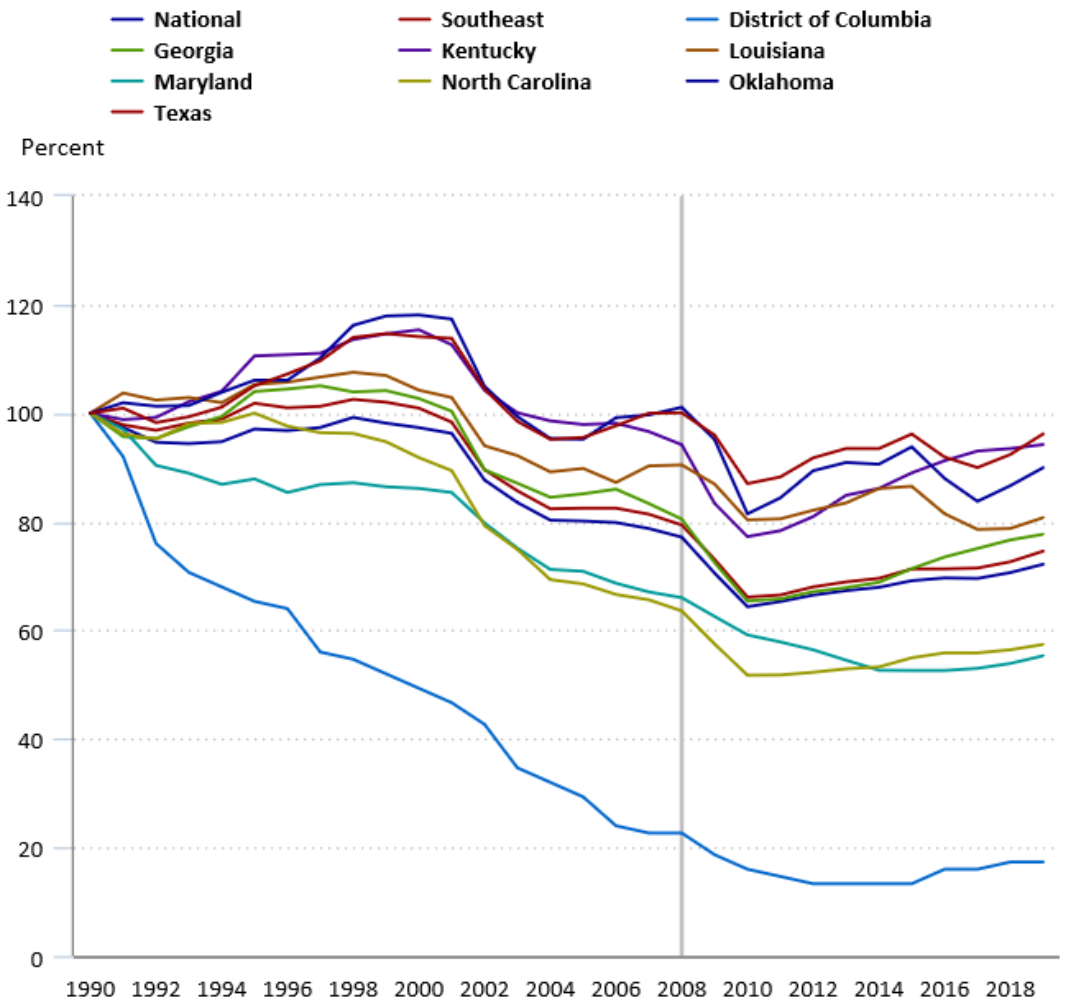
Note: Manufacturing industry covers NAICS 31–33

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Manufacturing employment in the United States fell over the last 30 years, but the magnitude of the decline varied among the states. Chart 4 compares individual states' manufacturing employment with the national average, indexed to January 1990. The Southeast region fluctuated over the period 1990 to 2019: slightly increasing from 1990 through 2000, then declining between 2000 and 2009, before moving upward slowly after the Great Recession. Overall, the Southeast region index moved closely in line with the national index. By January 2019, the indexed manufacturing employment for the national region was 72 percent, while the Southeast region was 75percent.

These states seemed to experience similar economic cycles, from the perspective of the manufacturing sector. Manufacturing employment levels of all states have declined since 1990, but individual states have taken different paths with their declines. For example, manufacturing employment in Kentucky and Texas experienced some fluctuation in the 2000s but moved back toward 1990 levels. Georgia, Louisiana, and Oklahoma recovered gradually after the Great Recession and maintained employment levels around 80 percent of their base, still slightly above the national index level. Manufacturing employment in Maryland and North Carolina fell sharply during the 1995–2009 period but rebounded to around 60 percent of their 1990 levels. The District of Columbia, which had a relatively small manufacturing industry, declined to an employment level of 1,400 in 2019 from 7,500 in 1990.

Chart 4. Indexed manufacturing employment for national, region and states, 1990–2019



Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, State and Metro Area.

Industry overview

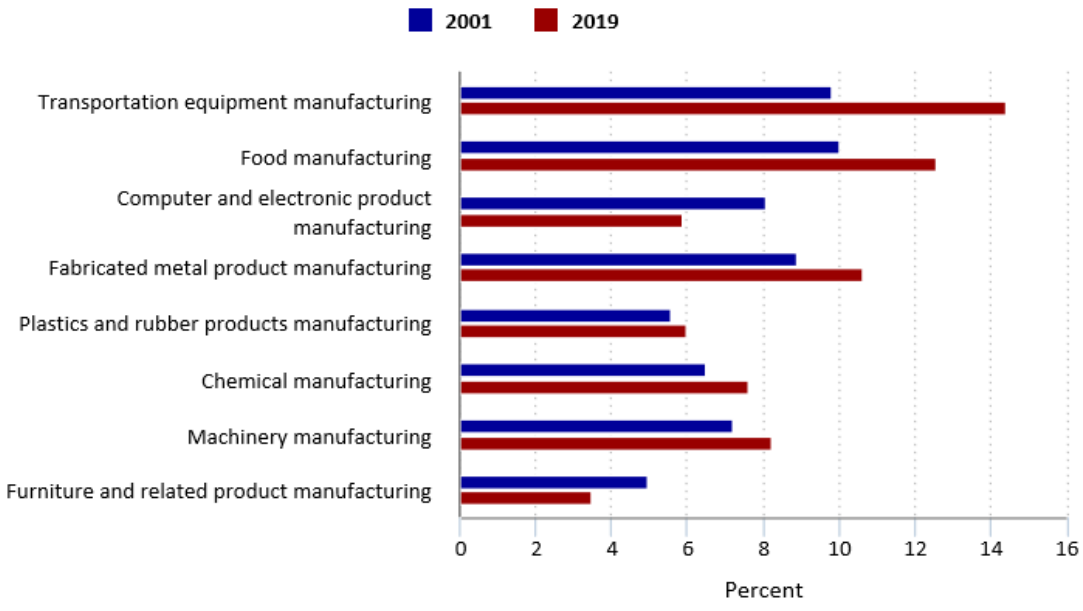
Durable goods employment in the Southeast region has fared much better than its nondurable counterpart.[3] Specifically, jobs in durable goods decreased by 7.1 percent, while jobs in nondurable goods declined by nearly 5 times that at 33.2 percent, from 1990 to 2019. This subsection will highlight the detailed industries that were the key drivers of these declines.

In the Southeast region, from 2001 to 2019, furniture and related product manufacturing employment (NAICS 337) (-44.4 percent) and computer and electronic product employment (NAICS 334) (−42.2 percent) posted the two biggest decreases in durable goods.[4]) Transportation equipment manufacturing (NAICS 336) was a rare bright spot in durable goods manufacturing employment, with a 16.7 percent increase.

Textile mills (NAICS 313) and apparel manufacturing (NAICS 315) accounted for most of the job losses in Southeast nondurable goods manufacturing employment. Apparel manufacturing shrank by 82.0 percent from 182,400 jobs in 2001 to a mere 32,800 jobs in 2019. Employment in textile mills manufacturing dropped by 68.8 percent. Although most industries in Southeast nondurable manufacturing have been declining, one industry has demonstrated vitality: beverage and tobacco product manufacturing (NAICS 312). Beverage and tobacco product manufacturing experienced the largest percentage increase in jobs in the nondurable goods sector (2.9 percent).

Chart 5 illustrates percentage shares of predominant manufacturing industries in the Southeast region in 2001 and 2019. Various industries have experienced differing levels of growth (or decline) over the 18-year period, despite a downtrend in manufacturing overall. For example, employment in transportation equipment manufacturing (NAICS 336) and food manufacturing (NAICS 311) represented by far the two largest percentage shares, 14.4 percent and 12.6 percent, respectively, in 2019. Interestingly, these same shares were much closer to other industries in 2001. The largest share drop occurred in textile mills (NAICS 313) (-2.8 percentage points), followed by apparel manufacturing (NAICS 315) (-2.6 percentage points) and computer and electronic product employment (NAICS 334) (-2.2 percentage points). The largest percentage share gains in the region occurred in transportation equipment manufacturing (NAICS 336) (+4.6 percentage points) and food manufacturing (NAICS 311) (+2.6 percentage points). This regional bright spot, transportation equipment manufacturing, is examined in greater detail in the following section.

Chart 5. Predominant industries in southeast, by percentage, 2001 and 2019

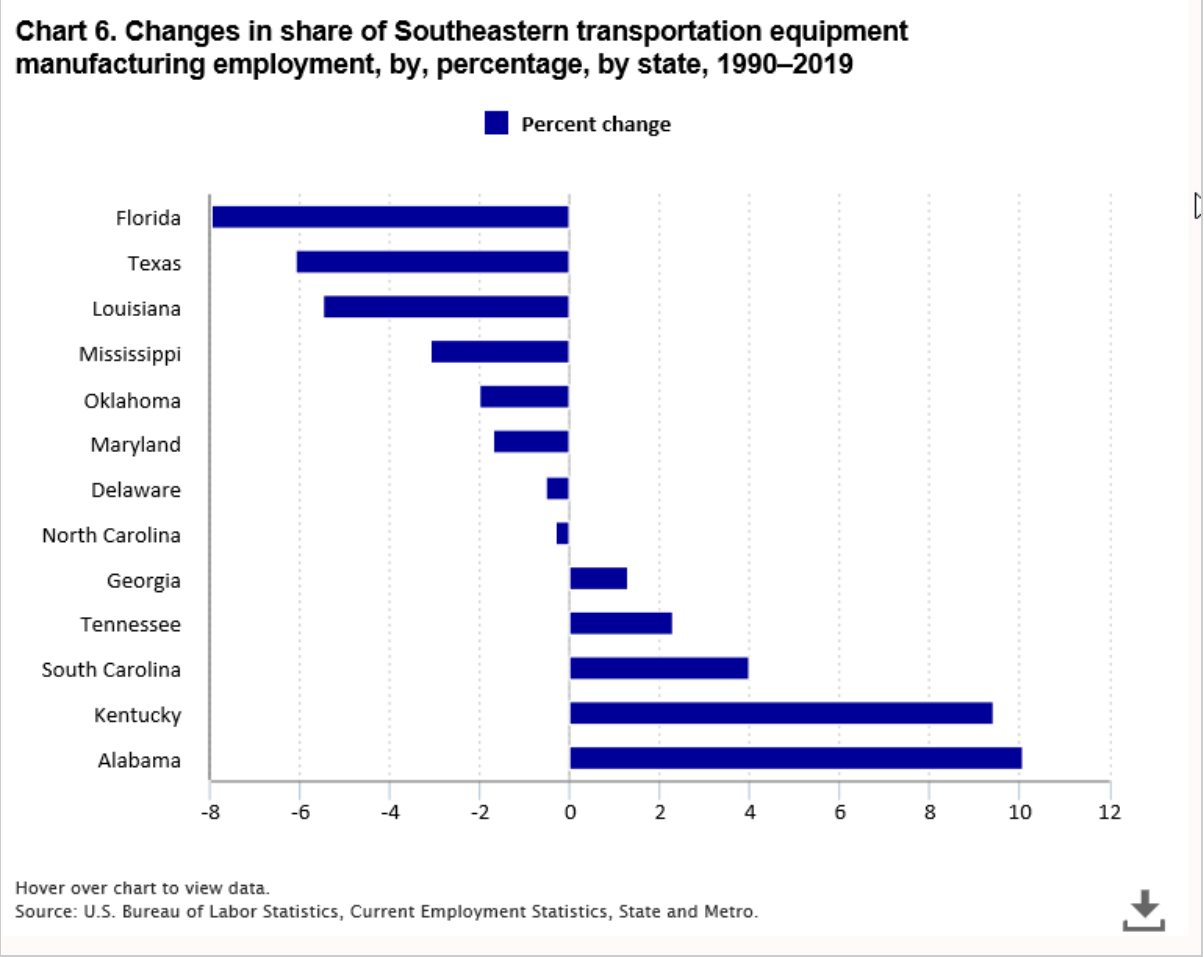


Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

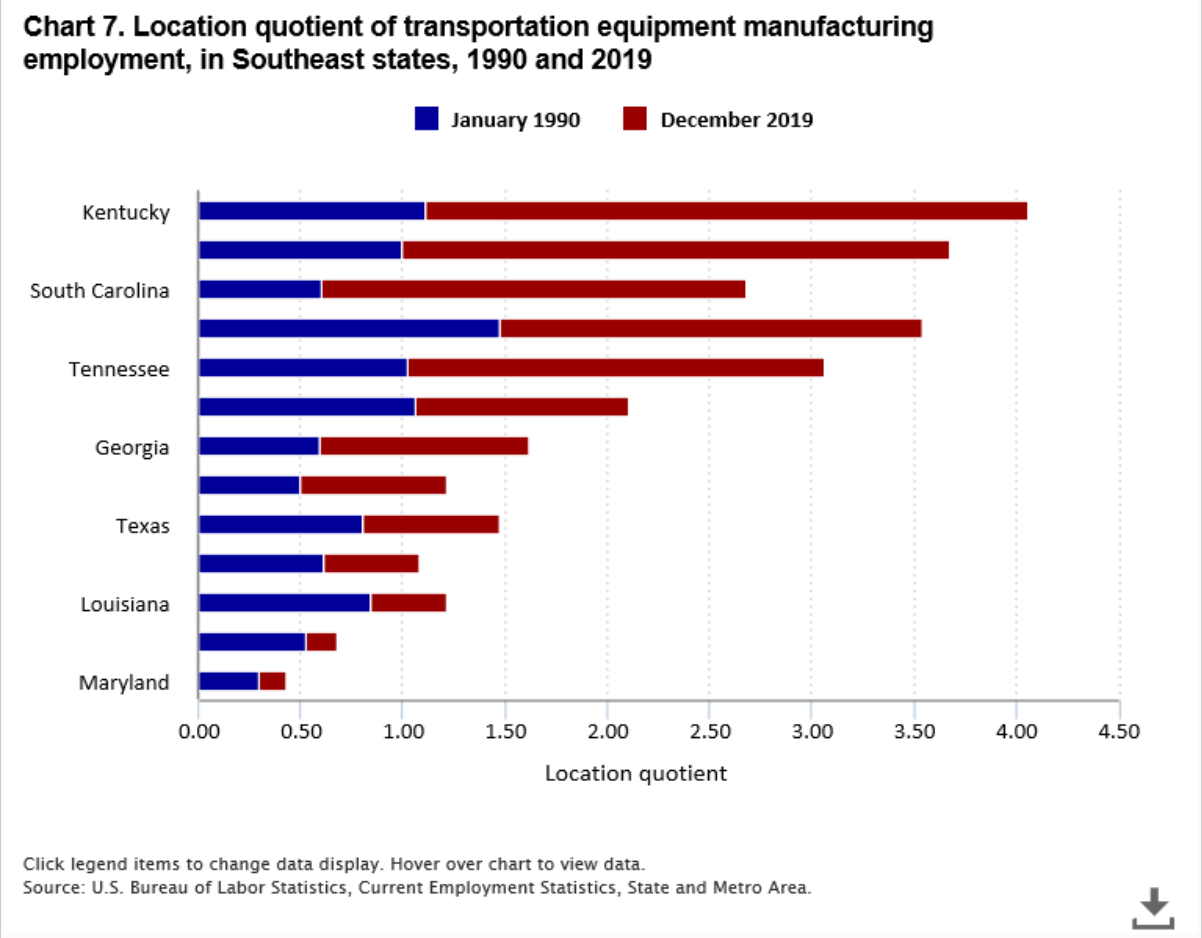
Transportation equipment manufacturing

From 1990 to 2019, four predominant subsectors, which make up transportation equipment manufacturing in the Southeast region, are motor vehicle manufacturing (NAICS 3361), motor vehicle parts manufacturing (NAICS 3363), aerospace product and parts manufacturing (NAICS 3364), and ship and boat building (NAICS 3366). Employment in motor vehicle manufacturing and motor vehicle parts manufacturing in Alabama more than doubled over the last 30 years. Conversely, aerospace product and parts manufacturing employment declined in both Florida (-24.6 percent) and Texas (-31.0 percent) but increased in Alabama (+17.9 percent). Ship and boat building cut jobs in Louisiana and Mississippi, by 65.1 percent and 14.7 percent, respectively. In recent years, automotive manufacturers chose to relocate production facilities in the Southeast, helping to mitigate overall manufacturing decline. Both international and domestic automakers moved production to the Southeast.

In terms of the state share of transportation equipment manufacturing employment in the Southeast region,Alabama, Kentucky, South Carolina, Tennessee, and Georgia gained big market shares since 1990, especially Kentucky, which jumped to the largest percentage shareholder, with a 16.9-percent share, in 2019. [5] (See chart 7.) Alabama (15.9 percent) and Tennessee (10.1 percent) also experienced strong growth. Although Florida experienced the largest decrease among these states, -8.0 percentage points, it still ranks as the fourth largest percentage share of Southeast transportation equipment manufacturing employment with 10.3 percent. Texas held a 13.6 percentage share of the Southeast transportation equipment manufacturing employment in 2019, declining from 19.7 percent in 1990. On the whole, transportation equipment manufacturing fueled employment growth in Alabama, Kentucky, South Carolina, Tennessee, and Georgia since 1990.

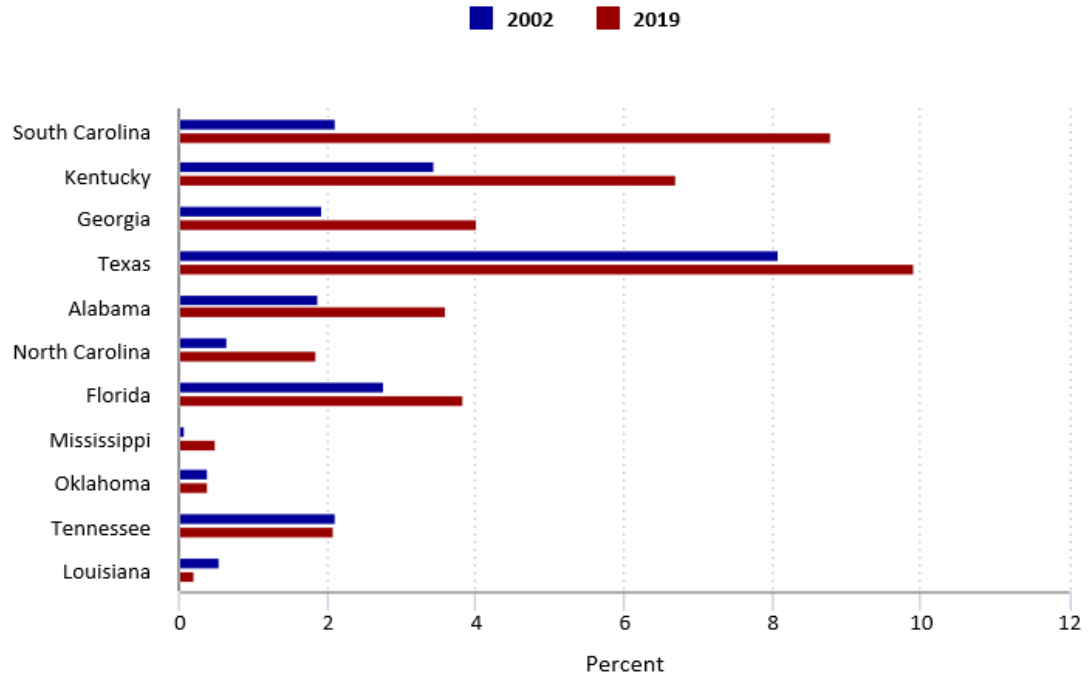


Industry location quotient (LQ) is a metric used to measure how specialized the employment-based transportation equipment manufacturing industry in each state is compared with the share of U.S. total employment; a value of one is equivalent to that of the United States, whereas a value of two means that the state has twice the national concentration.[6] Chart 7 provides industry location quotients for each state for the Southeast in 1990 and 2019. Kentucky had the highest LQ of 2.9 in transportation equipment manufacturing industry jobs, nearly 3 times more concentrated than the national average. Alabama and Tennessee also have high LQs of 2.77 and 2.14, respectively. Conversely, Texas and Florida showed a declining LQ, indicating that this subindustry declined more than the national average.



Examining export data provides further insight into the transportation equipment manufacturing sector. Chart 7 provides state shares of national transportation equipment exports for select states using U.S. Census Bureau data. South Carolina experienced the largest growth in national transportation equipment exports by 6.7 percentage points, surpassing Texas, a resilient exporter of transportation equipment. In total, these eleven states represented 41.9 percent of total U.S. transportation equipment exports in 2019, increasing from 24.0 percent in 2002, as illustrated in chart 8.

Chart 8. State share of national transportation equipment exports, for Southeast states, by percentage, 2002 and 2019



Click legend items to change data display. Hover over chart to view data.
Note: NAICS 336 refers to transportation equipment.
Source: U.S. Census Bureau.

Overview of transportation equipment manufacturing

Global auto firms heavily concentrated their southeast vehicle production in Alabama. In 1998, the first full year of production, a single plant produced 68,800 units, according to the data from Economic Development Partnership of Alabama.[7] Transportation equipment manufacturing in Alabama was not limited to automobiles. The first Alabama-built A320 family passenger jet was delivered in 2016.[8] Overall, transportation equipment manufacturing has been booming in Alabama. This industry's employment share of Alabama's total manufacturing employment more than doubled to 23.7 percent in December 2019, from 8.5 percent in January 1990.

Kentucky houses production facilities of several large automakers. To encourage investment and facilitate job growth, Kentucky's state government provided large auto manufacturers with tax incentives for continuously upgrading and modernizing their facilities. These tax incentives were given provided that these large manufacturers maintained payroll levels for Kentucky residents, under the finance authority's Jobs Retention Agreement.[9]

Two internationally leading car manufacturers located their North American manufacturing headquarters in Tennessee, one in Chattanooga and the other in Franklin.[10] Transportation equipment accounted for 19.1 percent of Tennessee's total commodities exports in 2019.[11]

Charleston in South Carolina has both a large aerospace manufacturing plant and an automobile facility.[12] The number of manufacturing-related jobs in the Charleston area has grown by close to 57 percent since 1990.[13]

Conclusion

Over the last 30 years, overall manufacturing employment in the Southeast region has declined. So, too, did the number of manufacturing establishments. In terms of geography, in the Southeast region, manufacturing employment is moving from the South Atlantic part of the region to West South Central part of the region in the last 30 years. Some states, such as Texas, Kentucky, Oklahoma, Louisiana, and Georgia, experienced slower declines, compared with the national trend in manufacturing employment.[14] In the Southeast, transportation equipment manufacturing experienced a growth spurt in the past 30 years, especially in Alabama, Kentucky, South Carolina and Georgia.[15]

SUGGESTED CITATION

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NOTES

1 The Census Bureau defines the Southeast region as Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

2 The U.S. Census Bureau divides the Southeast region into three divisions: South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida); East South Central (Kentucky, Tennessee, Alabama, and Mississippi); and West South Central (Arkansas, Louisiana, Oklahoma, and Texas).

3 The sum of durable goods and nondurable goods employment in the Southeast region included 16 states using Current Employment Statistics state and area employment data, except for the District of Columbia because of data unavailability.

4 Three Digit NAICS annual data in 2001 and 2019 comes from the U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages program.

5 The total transportation equipment manufacturing employment in Southeast region included 13 states using Current Employment Statistics state and area employment data, except for the District of Columbia, Arkansas, Virginia, and West Virginia because of data unavailability.

6 Location quotients are defined by the U.S. Bureau of Economic Analysis as “an analytical statistic that measures a region’s industrial specialization relative to a larger geographic unit.” Because they are ratios of two percentages, location quotients are unitless measurements used for comparison. For more information, see https://www.bea.gov/help/faq/478#:~:text=A%20location%20quotient%20(LQ)%20is,area%2C%20employment%2C%20etc .

7 For more information on Alabama Automotive Industry, see http://umich.edu/~econdev/alabama_auto/index.html .

8 For more information on Airbus in Alabama, see https://www.madeinalabama.com/why-alabama/success-stories/how-airbus-is-going-wheels-up-in-alabama-with-a220-production/.

9 For more information on Kentucky business incentives, see https://ced.ky.gov/Locating_Expanding/kybizince.

10 For more information on Tennessee automotive manufacturing, see https://tnecd.com/industries/automotive/.

11 Given in Tennessee total export value of all commodities was $31,076,389,367 and total export values of transportation equipment was $5,961,767,599 in 2019. Source: U.S Census Bureau, see https://usatrade.census.gov/data/Perspective60/View/dispview.aspx.

12 For more information on South Carolina automotive industry, see https://www.sccommerce.com/industries/automotive-industry.

13 Given the manufacturing employment in Charleston-North Charleston, SC was 19.2 (in thousands) in 1990 and was 30.1 (in thousands) in 2019. Source: Current Employment Statistics, State and Metro Area.

14 See chart 4 for indexed manufacturing employment for national, region and states (1990–2019).

15 See chart 6 for changes in state share of Southeastern transportation equipment manufacturing employment, 1990 and 2019.

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